



April 16, 2015

Mr. Richard Tedder, P.E.
Director
Solid Waste Management Section
Division of Waste Management
Florida Department of Environmental Protection
2600 Blair Stone Road
Tallahassee, Florida 32399

RE: Keystone Storage Pad - B
Agremax Beneficial Use Plan

Dear Rich

Attached please find a report entitled "Keystone Storage Pad - B Agremax Beneficial Use Plan". This report describes a proposed construction project of an approximately four (4) acre storage pad using Agremax coal ash. It is important to note that

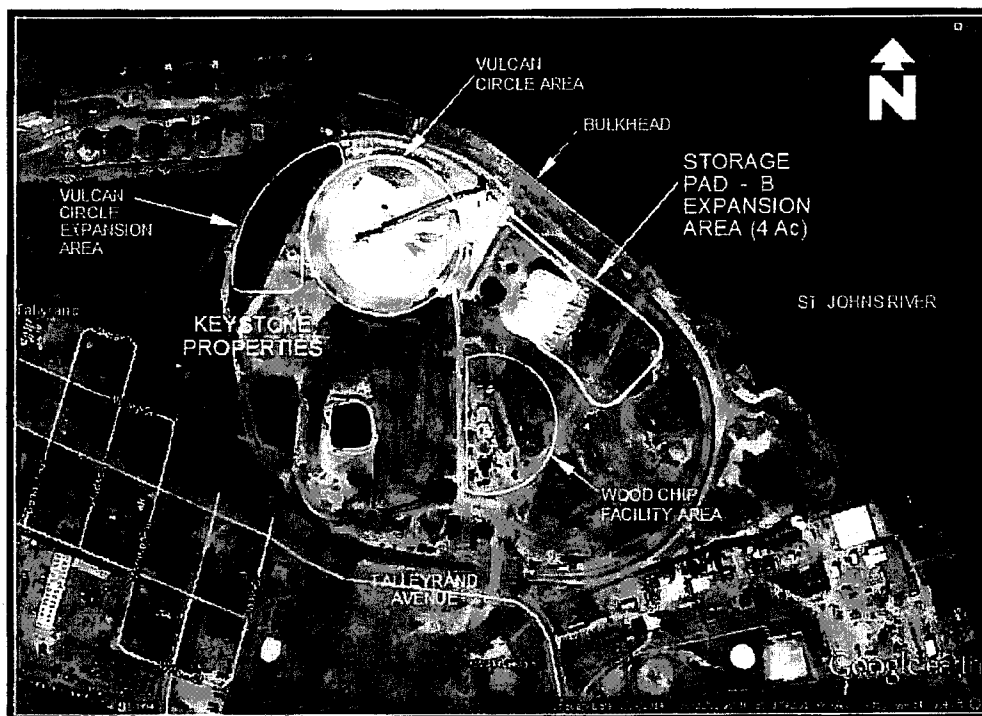
- 1) The storage pad is being constructed on an industrial site which is deed restricted for industrial use only.
- 2) The proposed location of the storage pad satisfies all coal ash location standards as referenced in DEP's March 2011 guidance letter to JEA.
- 3) The storage pad will be used for storage of large piles of bulk commodities such as pet coke, gypsum, and limestone. Storage of this material creates a significant "cap" over most of the four (4) acre storage pad.
- 4) Construction of the storage pad has been well-designed so as to assure protection of human health and the environment.

Overall, this project appears to have all of the positive attributes of a coal ash beneficial use project. Hopefully DEP will conclude that use of Agremax coal ash for this specific project satisfies the state's industrial byproducts exemption requirements.

1915 Wigmore Street - Jacksonville, Florida 32206

KEYSTONE STORAGE PAD - B

AGREMAX BENEFICIAL USE PLAN



KEYSTONE PROPERTIES, LLC

**1915 Wigmore Street
Jacksonville, FL 32206
Duval County, Florida**

Prepared by:

**Southern Monitoring and Environmental
Atlanta and Jacksonville**

DATE: APRIL 2015

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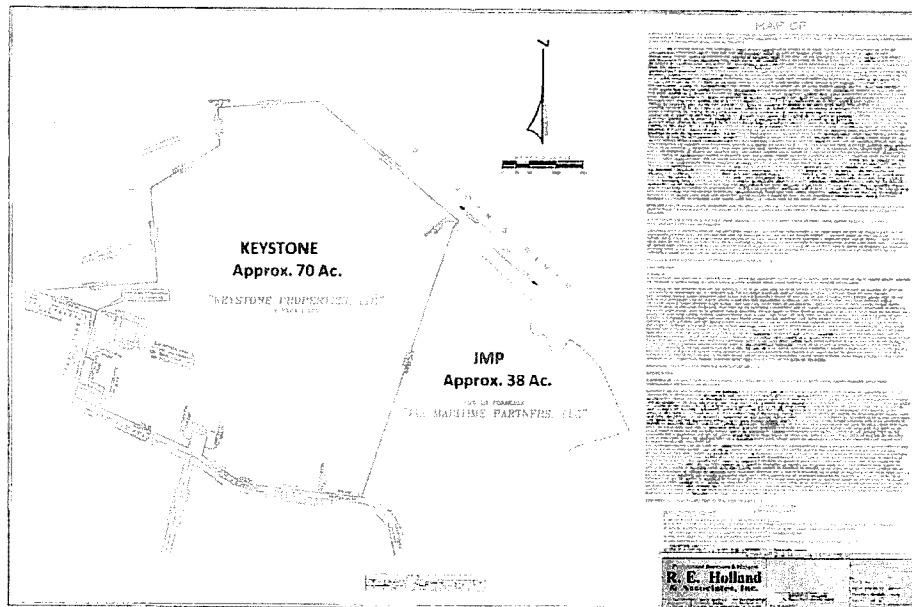
Section 1

Introduction To Site, Project Objectives, Agremax

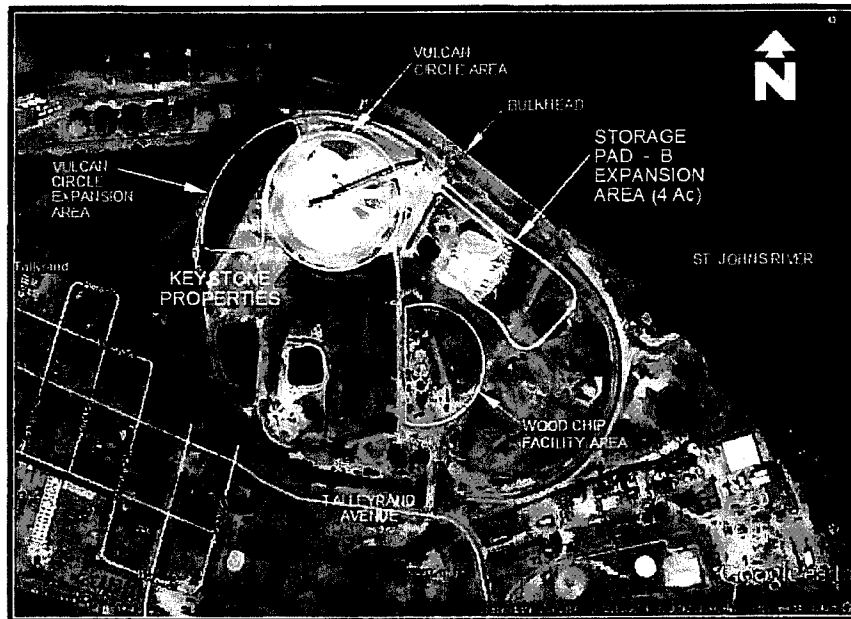
SECTION 1: Introduction to Site, Project Objectives, Agremax

Keystone Properties, LLC is headquartered in Jacksonville, Florida and has been developed as a major waterfront marine terminal along the St. Johns River. The property is more specifically located at 1915 Wigmore Street, Jacksonville, Florida 32256 and was the former Jefferson Smurfit paper mill site.

Keystone originally owned approximately 70 acres along the St. Johns River and then purchased approximately 38 acres from Jaxport on/or about March 2010 which is depicted in the total property area shown below.



The Keystone terminal provides varied land use space to other companies, as well as its own customers. The terminal is a major point of import and export of raw materials including coal, pet coke, fly ash, limestone, and wood chips. Vulcan Materials is a major tenant at the terminal and imports various types of stone for use throughout north Florida.



Storage Pad-B Expansion Area (4 Ac +/-)

Located at Top Right of Map

1.1 Project Objectives

Land Use Need:

Keystone requires construction of a new storage pad at it's Jacksonville facility. This new (four) 4 acre pad is designed to be constructed using Agremax coal ash. The pad will be used for storage of various aggregates such as limestone, pet coke, gypsum, etc.

Agremax coal ash will be delivered to the Keystone site via carrier vessel (ship), offloaded at the Keystone bulkhead and immediately placed down for use in construction of the storage pad, hereinafter referred to as Storage Pad – B.

A short haul road from the Keystone bulkhead to the newly constructed Storage Pad – B will also be constructed using Agremax.

The new storage pad will consist of 4.02 acres, and the haul road will consist of 0.29 acres, resulting in a total project acreage of 4.31 acres.

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Beneficial Use of Materials:

Beneficial use refers to the use of materials that provide a functional benefit, that is, where the use of material replaces the use of an alternative material and conserves natural resources that would otherwise be obtained through extraction or other processes to obtain virgin materials.

Conservation of Energy:

The beneficial use reduces waste, conserves energy and recycles materials, to the extent practicable and disposes of, or treats waste responsibly.

Human Health and Environment:

Protecting human health and the environment is an important Keystone objective, while acting as responsible stewards of the environment, and maintaining the maximum standard of Keystone performance. Keystone is committed to not creating adverse impacts to adjacent property owners and protecting the important St. Johns River.

FDEP Permit Compliance:

By virtue of environmental permits thus granted, Keystone strives to remain in compliance with federal, state and City of Jacksonville environmental laws and regulations.

1.2 History of Agremax

AES Corporation began developing AES Puerto Rico, LP (AES) in 1993. In November 2002 it opened its plant in Guayama, where it generates and distributes electricity through a 25-year contract with the Electric Power Authority. AES is the first power plant in Puerto Rico whose source of energy is coal mineral. It is worth noting that a plant listed as zero liquid discharge, has since recycled up to six million gallons of effluent treatment at the regional plant in Guayama, which then evaporates into the cooling process. In related effort to a cogeneration process, AES supplies steam to the neighboring Chevron Phillips Puerto Rico Core Inc. which uses AES technology coal clean, known as coal fluidized bed boilers (also known as CFB). This allows the plant to process coal in a manner consistent with the protection of the environment while generating electricity economically and reliably. The combination of advanced technologies makes the Guayama plant one of the world's cleanest power plants.

The proprietary business of AES is to provide reliable power at the lowest cost to Puerto Rico while protecting natural resources. AES has created one of the largest private investments in the history of Puerto Rico and built the Guayama plant as one of the cleanest plants in the world. The plant operates and implements cutting edge technology to produce over fifteen percent (15%) of the energy consumed in Puerto Rico.

AES currently operates an approximate 454 megawatt coal-fired cogeneration facility at its Guayama, Puerto Rico location for the generation and sale of steam and electricity and produces coal combustion products, including Agremax, as a byproduct of its steam and electricity generation operations.

1.3 Why Use Agremax

Agremax is an innovative alternative to reserving virgin natural resources, while making use of entirely recycled materials. The use of Agremax reduces construction costs and more importantly helps to conserve the environment, while protecting natural resources.

Agremax, as a byproduct of combustion coal, has suitable beneficial use qualities for purposes of various civil engineering and construction applications that include some of the following:

- Final top surfaces for roads, parking lots, laydown yards and industrial or commercial applications, either alone or with stone (such as granite or limestone) or asphalt milling rolled into the top surface.
- Compacted as a base course for civil applications in accordance with the Florida Department of Transportation (or other suitable states), where the base course will be covered with a friction surface such as asphalt or concrete.
- Used in a process for the stabilization of soils. Soil stabilization can be defined as a means of permanently altering soil to increase its strength and bearing capacity and decrease its water sensitivity and volume change potential.

Agremax use for the Keystone Storage Pad-B Expansion Area (4 ac +/-):

- As related to this particular beneficial use application, the use of Agremax will eliminate the need for expensive borrow materials which would otherwise be needed to fill an approximate four (4) acre storage requirement.
- The use of Agremax will expedite construction by improving sub-grade conditions as the material is quickly compacted and becomes extremely stable.
- The use of Agremax will provide a long term storage pad that will physically support storage of numerous types of aggregate and the associated heavy equipment used to constantly move the aggregate materials.

1.4 Florida Department of Environmental Protection Background on Beneficial Use Program

In 2003, the Florida Department of Environmental Protection (FDEP) drafted a letter concerning the use of certain wastes. One of the specific waste streams discussed in this letter is waste-to-energy (WTE) ash. Common applications for the use of this and other waste streams were: 1) structural fill; 2) in roads and sub-bases; 3) as soil amendments; and 4) in the manufacturing of soil cement, Portland cement, bricks or aggregate. While there are statutory and rule provisions that apply to the use of WTE ash and other waste, FDEP's rules generally do not specify what sort of information is required from applicants for beneficial use proposals and how these beneficial use decisions should be made by the FDEP.

In the letter, the FDEP discusses Part IV of Chapter 403, Florida Statute (F.S.), known as the Solid Waste Management Act. The statute includes provisions that allow and encourage the safe use of waste products. The statute also exempts certain solid waste disposal activities from the requirement to obtain a permit. Section 403.7045(1), F.S., exempts from regulation as solid waste, both recovered materials (defined to include only metal, paper, glass, plastic, textile or rubber materials) and industrial byproducts (not defined by statute, but interpreted to include most other materials which can actually be recycled) if the following requirements are met:

1. A majority of the materials are demonstrated to be sold, used, or recycled within one year;

2. The materials are not managed so as to pose a threat of contamination in excess of applicable department standards and criteria, or to cause significant threat to public health, and;
3. The materials are not hazardous wastes.

In addition to the above, additional guidance concerning use of coal ash was provided to the Jacksonville Electric Authority (JEA) by Florida DEP in a Florida DEP Guidance Letter to JEA dated March 29, 2011.

Florida's WTE plants produce about 1.5 million tons of ash residue each year, most of which is disposed in lined landfills. Section 403.7045(5), F.S., gives the FDEP authority to establish criteria and guidelines for recycling this material provided "no significant threat to public health will result and that applicable FDEP standards and criteria will not be violated". Beneficial use decisions are also evaluated on a case-by-case basis. The FDEP's guidelines for the use of WTE ash (FDEP, 2001) and RSM (FDEP, 1998) have not been adopted by rule and are not mandatory.

After reviewing the FDEP's letter and Florida Statutes, Keystone's consultants communicated with the FDEP concerning the use of Agremax and coal ash in general under these statutes and the FDEP policies. In recent years, the FDEP has found that the use of coal ash and related materials has sometimes been problematic in terms of environmentally related issues. Most of the difficulties associated with the use of these materials appear to have been the result of improper and poorly executed application of the material. After thorough discussions with the FDEP, it was determined that certain criteria and precautions must be followed during application of these types of materials, including Agremax.

Based on the FDEP's letter and Part IV of Chapter 403 F.S., Keystone requested AES's TCLP sampling plan for their coal ash material (Agremax) generated at the Guayama, Puerto Rico power plant. Keystone also requested TCLP sampling results for Agremax.

After reviewing AES's sampling plan, Keystone requested revisions to the plan, so as to assure adequate sampling for proving the material to be non-hazardous, per FDEP requirements.

A copy of the amended AES sampling plan, that includes these revisions, is attached within this plan. (See Section 8, Appendix 8.1). Also attached is April 2014 (See Section 8, Appendix 8.2) and June 2014 TCLP sampling data (See Section 8, Appendix 8.3) of the material, demonstrating it's compliance as a non-hazardous material.

It should be noted that AES has routinely and continually conducted TCLP sampling of Agremax for many years, as part of AES' materials management program and landfill disposal requirements and as part of the beneficial use of Agremax in Puerto Rico and the United States. This routine and continual sampling has continued to demonstrate the non-hazardous nature of the material.

End Section 1

Section 2

Keystone Site Location and History

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SECTION 2: Site Location and History

2.1 Location

The physical address for the facility is 1915 Wigmore Street, Jacksonville, Duval County, Florida. The facility is located on the west bank of the St. Johns River in the industrialized center of Jacksonville, Florida. (See Section 8, Appendix 8.4 and 8.5). The facility consists of approximately 110 acres of land, situated on both sides of Wigmore Street. The main parcel (Keystone Property), on which proposed kilns are to be situated, is comprised of approximately 100 acres, and a second parcel of approximately 10 acres is located across Wigmore Street from the main parcel. The Keystone Property had been used as a kraft linerboard mill and manufacturing facility from 1938 until 2006. A chain-linked fence is located along the southern, western, and northern boundaries of the Site so as to restrict the Site from public access. JEA's power plant primarily borders the southern vicinity. A mixture of both commercial and residential properties surround the western and northwestern boundaries. Residential housing is located approximately 1,500 feet southwest of the developed portion of the Site. The St. Johns River, which runs along the northeastern and eastern boundaries, serves as a natural barrier for the Site. (See Section 8, Appendix 8.6).

2.2 History

The southern portion of the Keystone Property was developed in 1919 by American Agricultural Chemical Company, which produced agricultural products and fertilizer. The American Petroleum Company owned the northern portion. During that time, it was also leased to Mexican Oil Company. The American Petroleum Company property was operated as a bulk petroleum storage facility until the mid-1950s.

In 1938, the National Container Corporation purchased the property from the American Agricultural Chemical Company and began boxboard paper manufacturing. When Owens Illinois Corporation purchased the National Container Company site in 1956, the adjacent American Petroleum property was also acquired. In 1965, the mill was acquired by Alton

Boxboard Company. Modernization of the facilities in 1975 included the addition of an industrial wastewater treatment system. From 1975 forward, process wastewater was treated prior to discharge to the St. John's River. Prior to 1975, process water was sent to the wetlands area at the northwestern end of the property. The process water, including dilute black liquor and other various liquids associated with paper-making activities, was released into a serpentine ditch, where solids settled and remaining water flowed into the St. John's River.

In 1979, the Jefferson Smurfit Group Limited initiated the acquisition of Alton Box Board stock. In 1980, the company name was changed from Alton Box Board Company to Alton Packaging Corporation. The completed purchase of all outstanding stock in 1981 allowed the company to become a subsidiary of Jefferson Smurfit Corporation. In 1986, the name was changed to the Jefferson Smurfit Corporation.

On November 25, 1991, an above-ground storage tank containing black liquor suffered a rupture, releasing approximately two million gallons. One-fourth of the release went into the river before it could be contained. The remainder either seeped into the ground or was recovered, processed, and recycled into the plant process. The soils that were impacted were removed and placed in on-site storage cells located in a section of the solid waste management area (SWMA). The on-site storage cells were created by excavating rectangular holes approximately ten feet deep. Polyethylene sheeting was then placed in the excavation (seams not welded) to restrict contact between existing soils and recent fill. In May 1993, the impacted soils were removed from the cells and transported to the Pecan Row Landfill in Valdosta, Georgia. This activity was completed in July 1993. Also in 1993, the 7.83 acre parcel was bought and added to the contiguous property area. This area was formerly residential.

As a result of the black liquor spill, the Florida Department of Environmental Regulation and the Jefferson Smurfit Corporation executed an Administrative Consent Order on March 10, 1992. The consent order provided a requirement to develop a groundwater monitoring program for the black liquor spill area and for the landfill. The monitoring program has been conducted since that time.

A former SWMA is located in the western portion of the facility and is approximately ten acres in size. The existence of this SWMA led the U.S. Environmental Protection Agency (EPA) to designate the property as a Comprehensive Environmental Response, Compensation, and

Liability Inventory System (CERCLIS) hazardous waste site in 1979 (EPA ID No. FLD006328793). The site is still currently listed in EPA's CERCLIS Hazardous Waste Site List. This area was grouped into two zones based on the waste product stored. Surface water drainage flows through the wetlands to the river on the west side of the SWMA and toward a ditch leading to the river on the east side of the SWMA.

EPA conducted preliminary assessments in 1979 and 1985, followed by a site inspection in 1986 with samples analyzed for volatile organic compounds (VOC's), semivolatile organic compounds (SVOC's), polychlorinated biphenyls (PCB's), pesticides, and inorganics. The results of these investigations indicated the presence of naphthalene (up to 410 micrograms per kilogram ($\mu\text{g/kg}$), 2-methylnaphthalene (up to 630 $\mu\text{g/kg}$), and PCB Aroclor-1254 (up to 160 $\mu\text{g/kg}$) in surface soil samples. Sub-surface soil sampling indicated the presence of phenanthrene (up to 1,200 $\mu\text{g/kg}$), phenol (up to 3,800 $\mu\text{g/kg}$), fluoranthene (up to 690 $\mu\text{g/kg}$), pyrene (up to 540 $\mu\text{g/kg}$), 4,4-dichlorodiphenyltrichloroethane (DDT) (up to 7.5 $\mu\text{g/kg}$), and PCB Aroclor-1254 (up to 100 $\mu\text{g/kg}$). Minor concentrations of inorganics were also observed. Groundwater sample results did not detect significant VOC or SVOC concentrations, but PCB Aroclor-1254 was noted in a down-gradient well at 1.7 micrograms per liter ($\mu\text{g/L}$). Minor concentrations of inorganics were also observed.

Semi-annual groundwater sampling has been conducted for VOC's, inorganics, turbidity, ammonia, nitrates, chloride, sulfates, pH, and total dissolved solids (TDS) at the SWMA from 1998 to the present, with pH, chloride, iron, sodium, and TDS exceeding Florida surface water quality standards. VOC's have not been detected.

After searching for several years for a port site to conduct its shipping operations, Keystone Properties, LLC, purchased 70 acres of the former Jefferson Smurfit paper mill from Jax Maritime in early 2006. Shortly after acquiring this property from Jax Maritime, the Jacksonville Port Authority filed an eminent domain action against Keystone Properties to take the property. Following a three year court case, Keystone Properties was able to retain title of its property and proceed with redevelopment. Over the next four years, Keystone Properties has rapidly transformed the Site into a modern bulk commodities handling facility.

2.3 Brownfields Status

Shortly after purchasing the property in early 2006, Keystone Properties initiated negotiations with the FDEP concerning the desirability of having the property designated as a brownfields site pursuant to the State of Florida Brownfields Program. Negotiations between Keystone and the FDEP were complicated by the ongoing eminent domain action taken by the Jacksonville Port Authority.

Effective in 2007, Keystone Properties, LLC entered into agreement with the State of Florida Department of Environmental Protection as set forth in the Brownfield Site Rehabilitation Agreement, also referred to as Brownfield Site ID# 160001008.

2.4 Land Use Status/Restrictions

The subject property is designated as industrial per the City of Jacksonville 20 Year Long Range Comprehensive Plan. Additionally, the property is zoned Industrial Waterfront per the City of Jacksonville Zoning Ordinance. Finally, a Deed Restriction has been placed on the property, limiting future use of the property to industrial.

End Section 2

Section 3

Characteristics of Agremax

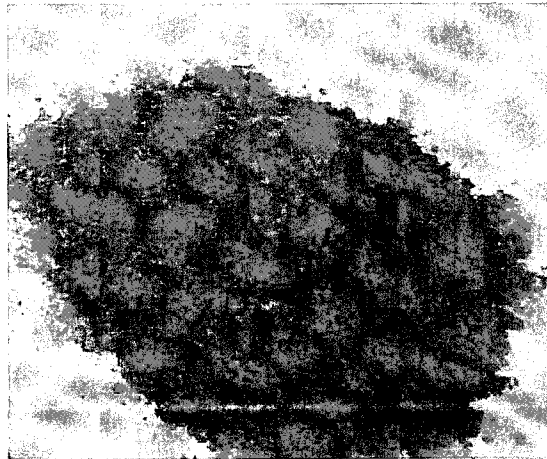
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SECTION 3: Characteristics of Agremax

3.1 Physical / Chemical Properties of Agremax

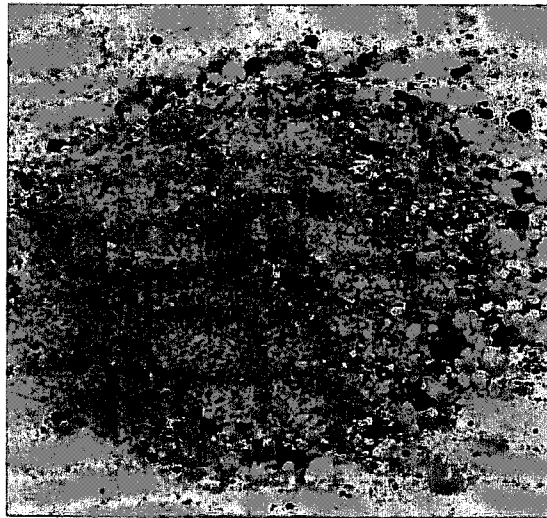
Coal-fired power plants produce millions of tons of coal ash per year. About 40% is beneficially used in a variety of applications and about 60% is managed in storage and disposal sites. Coal ash is the mineral matter that is collected after the coal is combusted, along with some unburned carbon. The solids collected from the furnace and removed from the flue gas after the coal is combusted are collectively referred to as coal combustion products and can be broadly categorized as coal ash and flue gas desulfurization solids. The physical and chemical properties of coal ash are determined by reactions that occur during the high-temperature combustion of the coal and cooling of the flue gas. There are basically two types of ash that make up coal ash; fly ash and bottom ash (bottom ash also known as bed ash).

Physical Properties of Fly Ash: Fly ash refers to the light weight particles that travel with the flue gas as it exits the furnace and moves away from the high-temperature combustion zone. Fly ash particles are composed mainly of amorphous or glassy aluminosilicates. Fly ash particles are typically spherical in shape, either solid or with vesicles. A small percentage are thin-walled hollow particles called cenospheres. The particles are fine-grained, typically silt-sized, ranging from 1 to 100 microns in diameter, with median particle diameters of 20 to 25 microns. Fly ash is usually tan to dark gray in color.



Typical Photo of Fly Ash

Physical Properties of Bottom Ash: Bottom ash consists of heavier particles that fall to the bottom of the furnace system. Bottom ash is also composed primarily of amorphous or glassy aluminosilicate materials derived from the melted mineral phases. Most bottom ash is produced in dry-bottom boilers, where the ash cools in a dry state. Bottom ash is coarser than fly ash, with a sandy texture and particles ranging in size from about 0.1 mm to 50 mm in diameter. Bottom ash from dry-bottom boilers is generally dull-black and porous in appearance. It typically has the consistency of course-sand to gravel and has a higher carbon content than fly ash. The properties of bottom ash makes it useful for a variety of construction applications.



Typical Photo of Bottom Ash

Chemical Properties of Agremax Coal Ash: The chemical composition of Agremax coal ash is determined primarily by the chemistry of the source coal and the combustion process. The chemical composition of the ash can change as power plants change fuels or add new air emissions controls to prevent releases to the atmosphere. It is not combustible or explosive.

Agremax is produced by blending the fly ash and bed ash at an 80/20% ratio. The subsequent material is metered by computer control to a pug mill. The pug mill blends the materials and begins aggregation of the product. This step is both a mechanical and chemical binding process. 25 -30% water by weight is added to hydrate materials.

The resulting Agremax is dropped from the production belt and then placed into the stock pile where it cures for a least two (2) weeks.

Common chemical properties found in Agremax are as follow:

Molecular Formula IUPAC Id	Chemical Formula	Density	Molar Mass	Melting Point	Boiling Point
Aluminum oxide	Al ₂ O ₃	3.95 g/cm ³	101.96 g/mol	3,762°F (2,072°C)	5,391°F (2,977°C)
Calcium oxide	CaO	3.34 g/cm ³	56.08 g/mol	4,735°F (2613°C)	5,162°F (2850°C)
Iron oxide	Fe ₂ O ₃	5.24 g/cm ³	159.69 g/mol	2,851°F (1,566°C)	3,609°F (1,987°C)
Magnesium oxide	MgO	3.58 g/cm ³	40.30 g/mol	5,165°F (2,852°C)	6,512°F (3,600°C)
Silicon dioxide	SiO ₂	2.65 g/cm ³	60.08 g/mol	2,912°F (1,600°C)	4,046°F (2,230°C)
Sodium oxide	Na ₂ O	2.27 g/cm ³	61.98 g/mol	2,070°F (1,132°C)	3,542°F (1,950°C)
Sulfur trioxide	SO ₃	1.92 g/cm ³	80.07 g/mol	62.4°F (16.9°C)	113°F (45°C)
Titanium dioxide	TiO ₂	4.23 g/cm ³	79.87 g/mol	3,349°F (1,843°C)	5,382°F (2,972°C)

Note: IUPAC represents the International Union of Pure and Applied Chemistry. The IUPAC is the recognized authority for chemical standards of nomenclature, measurements and atomic mass values.

AES has produced a Material Safety Data Sheet (MSDS) which states the product and company information, composition / information on ingredients, hazard identification, first aid measures, fire / explosion / fire fighting measures, accidental release measures, handling and storage, exposure controls / personal protection, physical and chemical properties, stability and reactivity, toxicological and ecological information, disposal considerations, transportation information, and regulatory information. (See Section 8, Appendix 8.7).

Also included within this plan is the SGS North America Analysis Report which demonstrates the oxide materials of oxide contents of Fly Ash, Bed Ash, and Agremax with the percent composition. (See Section 8, Appendix 8.8).

Also attached is April 2014 (See Section 8, Appendix 8.2) and June 2014 TCLP sampling data (See Section 8, Appendix 8.3) of the material, demonstrating it's compliance as a non-hazardous material.

It should be noted that AES has routinely and continually conducted TCLP sampling of Agremax for many years, as part of AES' materials management program and landfill disposal requirements and as part of the beneficial use of Agremax in Puerto Rico and the United States. This routine and continual sampling has continued to demonstrate the non-hazardous nature of the material.

In summary, Agremax coal ash is proposed to be used in this construction application as a fill material, soil stabilization and as a measure to conserve natural resources in lieu of mining borrow fill. In addition, it is not considered a hazardous waste according to standards of the Florida Department of Environmental Protection.

3.2 Comparison of Agremax to Commonly Used Materials of Similar Application

Agremax is an innovative alternative to reserving virgin natural resources, while making use of entirely recycled materials. The use of Agremax is expected to reduce construction costs and more importantly, help to protect the environment.

Agremax has the ability to be utilized in replacement of, or used as an enhancing product in lieu of similar materials such as Portland cement, crushed concrete, limestone or asphalt and in this particular application, will eliminate the need of mining borrow fill. It has qualities as a byproduct to potentially have less environmental impact than the previous materials listed.

In this particular civil engineering application, Agremax will be installed as an alternative to eliminate the need for expensive borrow materials which would otherwise be needed to fill an approximate four (4) acre storage requirement. Since, per DEP regulations, the circulating fluidized bed byproduct is non-hazardous, the current application shall contribute toward the conservation of natural resources.

End Section 3

Section 4

Potential Beneficial Use Scenarios for Agremax

SECTION 4: Potential Beneficial Use Scenarios for Agremax

4.1 Potential Beneficial Use Applications of Agremax

Beneficial use for applications that are similar to the material characteristics of Agremax have been used with success as listed below:

- Hydrated material used as road base (blended roadbase) and road aggregate (temporary and permanent types),
- Railroad beds,
- Parking lots, laydown yards and equipment pad construction,
- General base material,
- Finished surface material for roads, driveways and patios,
- Solid waste closure, landfill closure, soil stabilization for contaminated sites,
- Soil stabilization,
- Flowable fill (for excavation backfill, pipelines, etc.) and,
- Neutralization of highly acidic phosphate mine waste water.

4.2 Applications of Agremax Used in Various Locations

Beneficial use applications include, but are not limited to, the following typical uses in Puerto Rico:

- Project Name: Highway Exit Ramp #713 and consists of a highway roadway cross section of 3" Asphalt, 3.75" Black base, 5" Mogolla base and 24" Agremax sub-base.
- Project Name: Highway #706 and consists of a secondary roadway cross section of 1" Asphalt, 5" Mogolla base and 20" Agremax sub-base.
- Project Name: Highway #7711 and consists of a rural, unpaved roadway cross section of 4" Mogolla base and 12" Agremax sub-base.
- Project Name: Selectos Supermarket and consists of a shopping center parking lot cross section of 3" Asphalt, 10" Mogolla base and 24" Agremax sub-base.

Carrasquillo Associates of Puerto Rico conducted field testing in January 2011 at the above listed projects and concluded the following in-place CBR strength of Agremax sub-base and additional comments:

- Agremax exceeded a CBR strength of 40 percent,
- Demonstrated a much greater than expected quality of a typical sub-base,
- Exceeded CBR values previously reported based on testing performed under laboratory conditions,
- Agremax fell within the higher range of values for A-2-4 soils,
- Agremax was comparable to higher quality A-1-a soils,
- Agremax demonstrated no evidence of severe distress or any conditions affecting the use and performance of any of the pavements tested,
- Minor distress that was observed in field testing was limited to the asphalt wear surface layer and/or the Mogolla base layer,
- Minor distress that was observed was not indicative of the Agremax sub-base and,
- Agremax sub-base exhibited excellent performance.

Beneficial use applications include, but are not limited to, the following typical uses in the United States:

- Project Name: Millard Water Tank, Mobile, Alabama and consists of using Agremax as a sub-base for fill and soil stabilization.
- Project Name: GT Omni Port, Port Arthur, Texas and consists of using Agremax as a sub-base for railroad and soil stabilization.

End Section 4

Section 5

Storage Pad – B Location Standards and Permitting

(4-15-15)(3.19pm) KS SPad-B (TDBH)

SECTION 5: Storage Pad-B Location Standards

5.1 Storage Pad - B Location Standards

The proposed location of Storage Pad-B was dictated by the site facility longrange plan as well as by specific criteria for the environmentally safe use of Agremax. In selecting the location for the pad, Keystone has taken great care to assure that AES standards for use of Agremax are adhered to, as well as adherence to Florida DEP guidance for use of coal ash.

The location of the Storage Pad - B adheres to the following site location standards:

1. The storage pad is not being constructed on residential or commercial property. As may be seen in Section 8, Appendix 8.9, Sht. C-1, the nearest residential or commercial land use is approximately 1,500 feet from the storage pad.
2. The storage pad is not being constructed within 25 feet of a wetland as defined in Rule 62-340, F.A.C. As may be seen in Section 8, Appendix 8.9, Sht. C-1, the closest wetland as defined above is approximately 1,350 feet from the storage pad.
3. The storage pad is not being constructed so as to come into contact with surface water bodies. As may be seen in Section 8, Appendix 8.9, Sht. C-1, the closest surface water body is the St. Johns River which is approximately 185 feet from the storage pad. Stormwater permitting proposed for the pad will assure there are no environmental impacts to the river.
4. The storage pad is not being constructed within 500 feet of surface waters that routinely flood outside their banks, Section 8, Appendix 8.9, Sht. C-1.
5. The estimated seasonal high water level (SHWL) at WCF-1 is 9.0. The boring designation and location is at the edge of Storage Piles 1 and 2. This estimated SHWL is 5 ft. below the bottom of the proposed Agremax. The SHWL test boring was performed in September 2014. (See Section 8, Appendix 8.10, Sht. C-2).
6. The proposed 4.0 storage pad shall have concrete structure inlets and round concrete pipe positioned to capture and convey stormwater to proposed Pond-2. The stormwater collection system shall provide adequate water quality per the FDEP regulations. Pond-

- 2 will be directly connected to Pond-1 and then discharge through the control structure designated outfall discharge point (See Section 8, Appendix 8.10, Sht. C-2).
7. The proposed 4.0 acre storage pad shall have a general top elevation of 19.5. This elevation has been determined based on existing ground elevations of 14.0 +/- . The Agremax fill shall be placed in a 5 ft. depth and then have a 6" stone cap. The volume of the proposed storage pad is estimated to be 32,267 cubic yards. The proposed access road will lead from the existing haul road at approximate elevation 10.5 and climb in elevation until it reaches the storage pad top elevation of 19.5. The Agremax fill under the proposed access road will have a minimum thickness of 1 ft at the existing haul road and gain thickness to a 5 ft. depth at the connecting point of the storage pad. The volume of the access road is estimated to be 833 cubic yards. (See Section 8, Appendix 8.11, Sht. C-3).
 8. The bottom elevation of the storage pad (Agremax) is approximately 5 feet above the seasonal high water table. (See Section 8, Appendix 8.11, Sht. C-3).
 9. The storage pad is not being constructed within one-half mile of the nearest potable water well.

5.2 Storage Pad – B Permitting

The Keystone facility operates under a series of local, state, and federal permits and permissions including those of the U.S. Army Corps of Engineers, U.S. Department of Homeland Security, Florida DEP, The St. Johns River Water Management District, and the City of Jacksonville.

Prior to installation of the storage pad, all existing facility permits will be reviewed to determine if there is need for modifications of existing permits. It is anticipated that the existing facility stormwater permit will be modified in order to accommodate the new storage pad.

End Section 5

Section 6

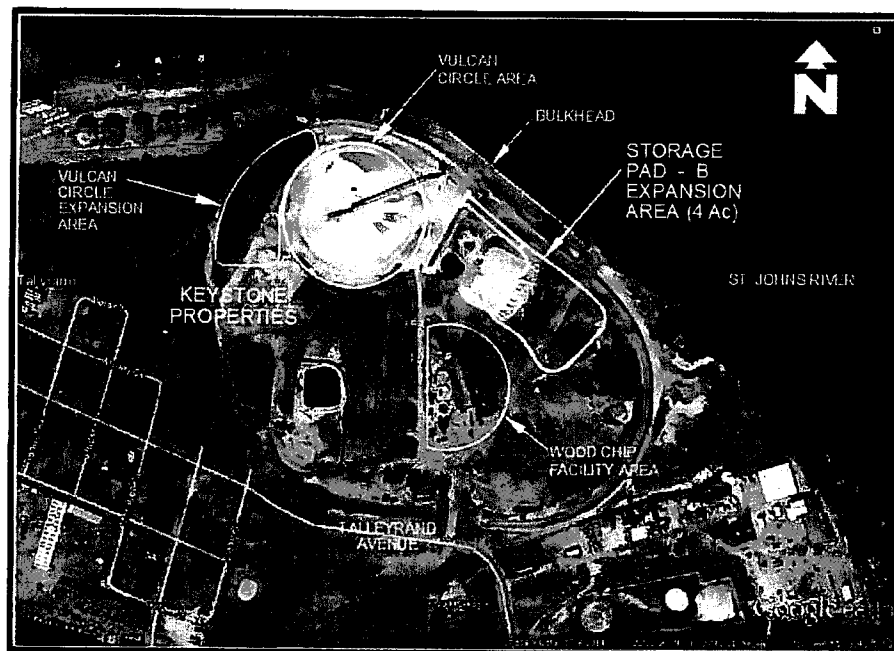
Proposed Construction Activities / Procedures

SECTION 6: Proposed Construction Activities / Procedures

6.1 Proposed Construction Activities / Procedures

Site Location:

In late 2014, directive had been given to Keystone staff and consultant(s) and sub-consultant(s) to prepare for expansion of the facility storage capability to include installation of a new storage pad of approximately four (4) acres. See map below.



Storage Pad-B Expansion Area (4 Ac +/-)
Located at Top Right of Map

Construction Activity Planning:

In 2015, Keystone staff and consultant(s) and sub-consultant(s) actively began preparation for construction procedures and construction sequence that will include but not be limited to the following:

(4-15-15)(3.19pm) KS SPad-B (TDBH)

Pre-shipment Sampling:

Prior to the Agremax being loaded onto the carrier vessel, the Agremax will be sampled by AES in accordance with the amended sampling plan as provided in Section 8, Appendix 8.1. The results will be reviewed and approved by Keystone prior to shipment of the Agremax to Keystone.

Construction Procedures:

1. As soon as Agremax is taken from the ship and to the proposed Storage Pad-B, it shall be placed and compacted in the subject construction area as quickly as possible,
 2. Agremax shall not be stockpiled at the construction area,
 3. All necessary measures shall be taken to avoid fugitive dust from the unloading and placement of Agremax and to avoid impacts to stormwater during placement of the Agremax,
 4. Agremax shall be installed in layers of less than 1 foot in depth. Moisture shall be applied to the Agremax after the completion of each layer,
 5. Agremax shall be compacted at the conclusion of each day of application utilizing a roller or similar machinery,
- It should be noted that Keystone has all necessary installation equipment available at the property including heavy loaders, bulldozers, and rollers.

Construction Sequence

1. Site preparation,
2. Carrier vessel arrival date, confirm amount of cargo material and confirmation of pre-delivery sampling results
3. Unloading of Agremax material,
4. Transporting Agremax material to the new Storage Pad - B,
5. Laydown of Agremax material,
6. Compaction and capping surface,
7. Finalize the unloading of the carrier vessel.

A detailed description of the planning and construction activities is presented below.

1. Site area data acquisition:

- a. Survey task: Keystone staff shall coordinate with R.E. Holland Surveyors and request a topographical survey of the existing ground conditions in the subject area. The existing survey shall be compared to the proposed grading and confirm an estimated volume needed to provide the necessary amount of Agremax fill material needed to complete the proposed expansion.
- b. Autocad drawing task: Southern Monitoring and Environmental (SME) will give directive to staff senior designer to prepare at a minimum, 1) a plan view sheet depicting the new Storage Pad - B, and 2) a cross section sheet depicting the proposed fill area that shows existing grade, proposed base, Agremax fill, proposed upper base and proposed top surface.

2. Site preparation:

- a. Prior to the arrival of the carrier vessel, the subject area shall be prepared to form a base course for the deposit of Agremax material.

3. Carrier ship arrival date, amount of cargo material and pre-delivery testing:

- a. The designated carrier vessel shall be the "Mississippi Enterprise" that shall transport the Agremax coal ash material under an American flag from AES Puerto Rico to the Jacksonville Keystone facility.
- b. The carrier vessel shall be transporting approximately 33,100 short tons of Agremax coal ash material.
- c. Pre-delivery sampling of material shall be performed by AES prior to loading in Puerto Rico. This sampling shall consist of an independent third party

reasonably acceptable to Keystone. Sample results will be reviewed and confirmed by Keystone prior to loading of the carrier vessel in Puerto Rico.

4. Unloading of Agremax material:

- a. The unloading of Agremax material shall be performed by stevedores which shall be provided by Keystone.
- b. It shall be anticipated that unloading of the carrier vessel shall achieve an unloading rate of approximately six thousand (6,000) short tons per twenty four (24) hour period.
- c. The carrier vessel shall provide the use of three (3) on deck cranes with clam shell unloading devices.
- d. As material is unloaded from the carrier vessel, it will be deposited into large steel bins situated on the bulkhead.
- e. Front end loaders shall load material from the large steel bins to dump trucks.
- f. Caution shall be exercised to limit fugitive dust.
- g. AES staff and Keystone staff shall observe and monitor unloading procedures at all times.

5. Transporting Agremax material to the new Storage Pad - B:

- a. After the material is loaded into the dump trucks, the trucks shall follow a designated haul road path that leads from the bulkhead in a easterly direction.
- b. The trucks shall follow the haul road path to the north end of the new Storage Pad - B.

- c. Keystone staff will provide continuous laydown of water, by means of a water truck vehicle, in order to limit fugitive dust and initiate the hardening of the Agremax material.

6. Laydown of Agremax material:

- a. Once trucks deposit material to the new Storage Pad - B, a dozer will push material into the fill area and continue at a rate comparable to the haul effort.
- b. As material reaches an approximate level consistent with the plan intent of the approved grading design, RE Holland surveyors will be requested to survey and stake the proposed finished grade elevation across the fill area.

7. Compaction and Capping Surface:

- a. As material is being deposited, a vibratory roller and bulldozer shall endeavor to provide continuous compaction efforts to achieve desirable surfaces at all times.
- b. After the estimated proposed elevation is achieved, the vibratory roller and bulldozer shall provide final efforts consistent with top surface expectations.
- c. Once the Agremax surface elevation expectation is met, clean stone or gravel, as a final cap, shall be installed to an approximate depth of 6 inches.

8. Creation of temporary storage:

- a. If the proposed expansion area reaches a maximum level of storage, a temporary storage area shall be designated to handle the excess material.
- b. Temporary storage area shall be determined by Keystone staff as the construction and carrier vessel unloading progresses.

- c. Any excess material shall be used as beneficial use or shall be disposed of at an appropriate solid waste landfill, within ninety (90) days of arrival of the material at the construction area. It is not anticipated that there will be any excess material.

9. Finalize the unloading of the carrier vessel:

- a. Monitoring and observation of the carrier vessel unloading progress will continue at all times.
- b. Keystone staff will at all times provide necessary services to aid in the process and progress.
- c. Keystone staff will coordinate with all support staff to be present for observation of the final unloading of the carrier vessel.

End Section 6

SECTION 7

Final Use Of Storage Pad - B

(4-15-15)(3.19pm) KS SPad-B (TDBH)

Section 7: Final Use of Storage Pad-B

7.1 Final Use Of Storage Pad – B

Once construction is achieved, the new Storage Pad - B will be available for use on an immediate basis. The new Storage Pad - B will be used to store a variety of bulk commodities including limestone, gypsum, pet coke, and related commodities. Storage of bulk commodities is shown on the drawings in Section 8, Appendices 8.9, 8.10 and 8.11 of this plan. As may be seen on the referenced drawings, the stored commodities are placed in large piles on the new storage pad and serve as a large "cap" over most of the new storage pad. Once these commodities are placed on the pad, the commodities are then, over time, shipped out to various customers. However, past operational practice indicates that the subject piles of commodities are never completely depleted; thus, the "cap" over the Agremax always remains in place.


End Section 7

Section 8

Appendices and Supporting Documentation

Appendix 8.1

AES Amended Sampling Protocol

	Title: Agremax , Fly Ash and Bed Ash Sampling Procedure		Doc #: SOP-CCP-002	Prepared by: Eitel Figueroa	AES Puerto Rico Guayama, PR	Page: 1 of 6
	Reviewed by: Carlos Gonzalez	Area: CCP Area	Effective Date:05-21-14	Review Date:06-18-15 Supersedes:4-13-14	Rev #: 2	

Title:

Agremax, Fly Ash and Bed Ash Sampling Procedure

Approvals:

	Signature	Date
Reviewed by: Hector Avila Environmental Coordinator	_____	_____
Reviewed by: Carlos Gonzalez CCP Team Leader	_____	_____
Assistant Plant Manager: Ron Rodrique	_____	_____
Engineering Manager: Ramiro Rivera	_____	_____

Distribution List:

1. CCP Area
2. Control Room
3. Plant Manager Office



	Title: Agremax , Fly Ash and Bed Ash Sampling Procedure	Doc #: SOP-CCP-002	Prepared by: Eitel Figueroa	AES Puerto Rico Guayama, PR	Page: 2 of 6
	Reviewed by: Carlos Gonzalez	Area: CCP Area	Effective Date:05-21-14	Review Date:06-18-15 Supersedes:4-13-14	Rev #: 2

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	Title: Agremax , Fly Ash and Bed Ash Sampling Procedure	Doc #: SOP-CCP-002	Prepared by: Eitel Figueroa	AES Puerto Rico Guayama, PR	Page: 3 of 6
	Reviewed by: Carlos Gonzalez	Area: CCP Area	Effective Date:05-21-14	Review Date:06-18-15 Supersedes:4-13-14	Rev #: 2

1. **Purpose**

The purpose of this Standard Operating Procedure (SOP) is to provide a standardized procedure for the preparation of samples for different analysis. Specifically, the samples are obtained to perform TCLP and SPLP analysis to verify that Agremax, Fly ash and Bed ash are not hazardous based on RCRA limits. This procedure will be used by AES Puerto Rico LP employees and contractors/subcontractors supporting soil or other solid media according AESPR QA/QC Plan.

2. **Scope**

This procedure establishes a step by step routine procedure to collect CCP samples for laboratory analysis. Proper sample collection technique will improve the accuracy of results and will help avoid cross contamination.

3. **Responsibilities**

The Coal Combustion Products Team Leader, CCP Project Engineer, CCP operator, or sub-contractor is responsible for overseeing sample preparation activities. The CCP Team Leader is also responsible for checking all the sampling work performed and verifying that the work satisfies the specific tasks outlined by the SOP. It is the responsibility of the CCP Team Leader/ CCP Engineer to communicate with the laboratory personnel regarding specific collection objectives. The CCP operator/contractor or designated person is responsible of preparing the samples and adhering to the applicable task outlined in this procedure and to take all the required samples according AESPR QA/QC plan.

4. **Definition**

4.1. **Grab Sample**


Is just what it sounds like; all of the testing material that is collected at one time. As such, a grab sample reflects performance only at the point in time that the sample was collected, and then only if the sample was properly collected.

4.2. **Composite sampling**

Consist of a collection of numerous individual samples taken at regular intervals over a period of time. This usually takes 24 hours. The material being sampled is collected in a common container over the sampling period. The analysis of this material collected over a period of time will therefore represent the average performance of a wastewater treatment plant during the collection period.

4.3 **Vessel loading sampling**

When Agremax is to be shipped to US and Florida customers, the sample frequency shall be taken to correspond to no more than 3000 ton intervals loaded. Sampling procedures shall be conducted in accordance with Florida DEP QA Rule 62-160 F.A.C. (Should there be any inconsistency or inaccuracy in the protocol, the subject QA Rule shall govern).

	Title: Agremax , Fly Ash and Bed Ash Sampling Procedure	Doc #: SOP-CCP-002	Prepared by: Eitel Figueroa	AES Puerto Rico Guayama, PR	Page: 4 of 6
	Reviewed by: Carlos Gonzalez	Area: CCP Area	Effective Date:05-21-14	Review Date:06-18-15 Supersedes:4-13-14	Rev #: 2

To make the composite of 3000 tons, a sample should be taken at 1000 ton intervals. Each sample should be swept from the belt or from the hold depending on safety TCLP analysis. (The labs will “rush” the samples through upon request). Every sample shall be sent to the laboratory for immediate analysis with a “rush” request included.

5. Personal Protection Equipment (PPE)

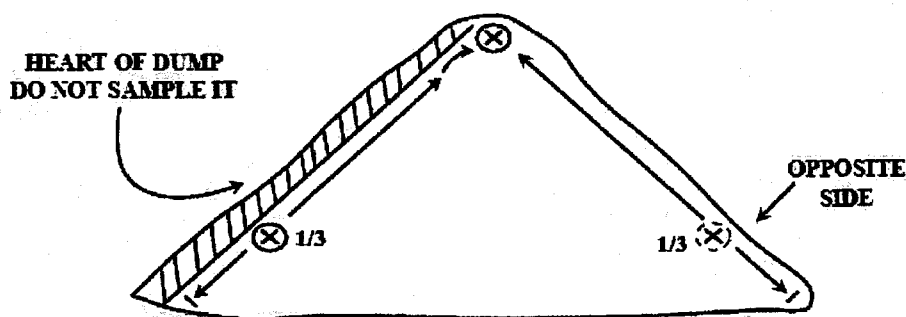
- 5.1. Safety Glasses
- 5.2. Hard Hat
- 5.3. Safety Shoes
- 5.4. Rubber Gloves

6. Sample Process

6.1. Sampling Techniques- Stock Pile


- 6.1.1. Do not rake back or disturb the material before sampling. Sample it just like it is.
- 6.1.2. Push the shovel straight in at about 90° and as far as it will go.
- 6.1.3. Remove the shovel carefully to minimize spilling material off of the shovel blade.
- 6.1.4. Material spilled off the shovel is coarser than that which is left on the shovel and distorts test results.

SIDE VIEW

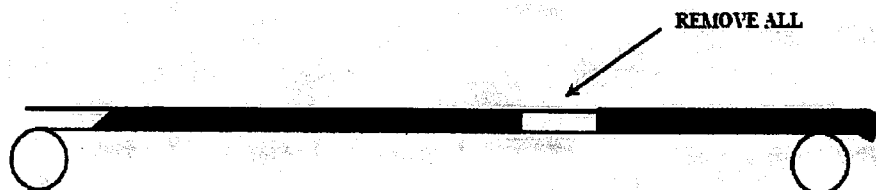


6.2. Sampling Techniques –Conveyor Belts

- 6.2.1. Stopped Level Belts

	Title: Agremax , Fly Ash and Bed Ash Sampling Procedure	Doc #: SOP-CCP-002	Prepared by: Eitel Figueroa	AES Puerto Rico Guayama, PR	Page: 5 of 6
	Reviewed by: Carlos Gonzalez	Area: CCP Area	Effective Date: 05-21-14	Review Date: 06-18-15 Supersedes: 4-13-14	Rev #: 2

6.2.2. To sample a level stopped belt simply remove all of the material from a cross section.



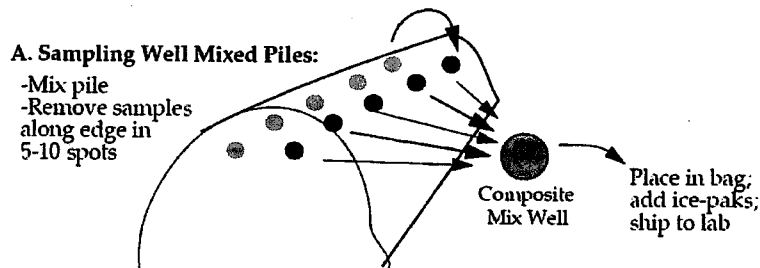
7. Sample Area and Frequency


- 7.1. When taking the sample, the Manufactured Aggregate (Agremax) Pug mill mixer should be in service. The operator shall obtain one sample (500g recipient) as soon as the system starts operation.
- 7.2. Representative Sample (Agremax): A third of a 5 gallon bucket shall be obtained every two weeks according ASTM D 75 of the final product of the Aggregate pile. After the representative sample is taken, composite samples shall be deposited in to the bottle (500g).
- 7.3. Representative Sample (Fly Ash and Bed Ash) of 5 gallons shall be obtained every two weeks according ASTM D 75 in the bin 500 of the AES Puerto Rico, LP Plant. After representative samples of the weekly composites samples shall be deposited in to the bottle (500g).

8. Composite Sample Procedure

8.1. Aggregate Pile

Take 5 – 10 sub-samples each from each side of pile; mix-well in bucket and remove 1-gallon and ship to lab, See below sampling schematic.



	Title: Agremax , Fly Ash and Bed Ash Sampling Procedure	Doc #: SOP-CCP-002	Prepared by: Eitel Figueroa	AES Puerto Rico Guayama, PR	Page: 6 of 6
	Reviewed by: Carlos Gonzalez	Area: CCP Area	Effective Date:05-21-14	Review Date:06-18-15 Supersedes:4-13-14	Rev #: 2

8.2. Fly and Bed Ash Tank

Take 5 – 10 sub-samples each from the tanks during the month; mix-well in bucket and remove a 500g recipient of the sample and ship it to the laboratory.

9. Labeling of Sample

Sample shall be properly labeled on the recipient with permanent marker and clearly identified as follow:

- ✓ Name of Employee
- ✓ Name of Material
- ✓ Date and Hour
- ✓ Time Frame Represented
- ✓ Test to be performed

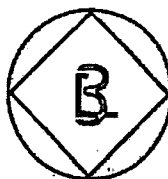
10. Sample Receipt and Storage

All samples will be assigned a "Sample Identification Name" prior to preparatory laboratory receipt of samples. Samples will be delivered to the laboratory designated with a proper Chain-of-Custody documents and seals. Upon receipt of samples by the preparatory laboratory, the chain-of-custody documents will be signed and copies must be retained with other preparatory documentation. Upon receipt of samples, samples will log and stored based on either the original Sample Identification Name.

Appendix 8.2

Agremax April 2014 TCLP Results

(4-15-15)(3.19pm) KS SPad-B (TDBH)



BECKTON ENVIRONMENTAL
LABORATORIES, INC.



REPORT OF ANALYSIS

ATTENTION: Mr. Héctor Ávila
COMPANY: AES Puerto Rico - Guayama

DATE: April 11, 2014

CONTRACT: AES - Guayama

SAMPLE IDENTIFICATION: BED ASH

SAMPLER: Client
MATRIX: Solid
SAMPLE WT/VOL: 25 (g/mL) g

LAB. SAMPLE ID: BEL-1401289
LAB. FILE ID: 1401289
DATE SAMPLED: 04/02/14
DATE RECEIVED: 04/02/14
DATE EXTRACTED: 04/04/14 (TCLP)
DATE ANALYZED: 04/07/14 (Metals)
04/09/14 (Hg)

ANALYST: BTR (Metals)
HS (Hg)

MAXIMUM CONCENTRATION OF CONTAMINANTS FOR CHARACTERISTIC OF TCLP TOXICITY

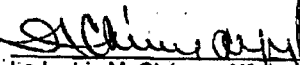
EPA HAZARDOUS WASTE NUMBER	CONTAMINANT	BEL-1401289 RESULTS (mg/L)	METHOD DETECTION LIMIT (mg/L)	REGULATORY LEVEL (mg/L)
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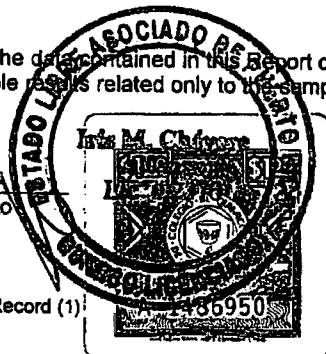
METALS (SW 846 6010C/7470A).

D004	Arsenic	<0.001	0.001	5.0
D005	Barium	0.568	0.001	100.0
D006	Cadmium	<0.001	0.001	1.0
D007	Chromium	0.064	0.001	5.0
D008	Lead	0.011	0.001	5.0
D009	Mercury	0.00012	0.00005	0.2
D010	Selenium	0.014	0.002	1.0
D011	Silver	<0.001	0.001	5.0

Method Detection Limit (MDL)-The minimum concentration of a substance that can be measured and reported with 99% confidence that the value is above zero.

Certification and release of the data contained in this Report of Analysis has been authorized by the Laboratory Manager or the Manager's Designee. Sample results related only to the sample submitted.


Lcda. Iris M. Chévere Alfonzo
Laboratory Director
Chemist License 2370



Attachment: Chain of Custody Record (1)

PAGE 1 OF 1

THE NELAC CERTIFIED ANALYSES MEET ALL REQUIREMENTS OF NELAC STANDARDS.
REFER OUR SERVICE DEPARTMENT FOR THE CURRENT LIST OF CERTIFIED ANALYSES.
CERTIFIED BY THE STATE OF FLORIDA DEPARTMENT OF HEALTH AND REHABILITATION SERVICES FOR ENVIRONMENTAL TESTING
• CERTIFICATION NUMBER E87556 •
192 VILLA STREET • PONCE, PR 00730-4875 • TEL. (787) 841-7373 • FAX (787) 841-7313

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BECKTON ENVIRONMENTAL LABORATORIES

192 Villa Street • Ponce, P.R. 00730-4875

Tel. 787-841-7373 • Fax 787-841-7313

REVISION 2009

CHAIN OF CUSTODY RECORD

PROJECT NO	COMPANY <u>AES Guayama</u>	SAMPLER <u>Christ</u>
SAMPLE LOCATION/CLIENT ID	<u>Bed Ash</u>	TIME <u>9:30 AM</u>
SAMPLE DATE	<u>4-2-14</u>	BEL NO <u>1401289</u> CONTROL NO <u>174472</u>

1 General Environmental:

Acidity ()
 Ammonia as N ()
 BOD-5 ()
 Chloride ()
 COD ()
 Conductivity $\mu\text{mhos/cm}$ ()
 Dissolved Oxygen ()
 Hardness ()
 Moisture % ()
 Nitrite ()
 Oil+Grease ()
 Phenol ()
 Phosphorus, Total ()
 Sett Solids mg/L ()
 Sulfate ()
 Sulfite ()
 TDS ()
 Temperature, °C ()
 TOC ()
 Asbestos ()
 TVS ()
 Total Nitrogen ()

PC

VSS

Alkalinity ()
 Bicarbonate ()
 Bromide ()
 Chlorine, Res ()
 Color (ADMI) ()
 Color (Pt-Co) ()
 Cyanide ()
 Fluoride ()
 Iodide ()
 Nitrate ()
 Nitrate + Nitrite ()
 pH, S.U. ()
 Phosphate, Ortho ()
 Sett Solids mL/L ()
 Solids, Total ()
 Sulfide ()
 Surfactant ()
 TSS ()
 TKN ()
 Turbidity ()
 Carbonate ()

PC

Sampling Witness:

Date/Time:

Relinquished by:

Date/Time:

Received by:

Date/Time:

Relinquished by:

Date/Time:

Received by:

Date/Time:

Relinquished by:

Date/Time:

Received by:

Date/Time:

Matrix

air () water () sludge ()
 liquid () soil () solid ()
 oil () mixed () other ()

Specify:

Preservative Codes = PC

3. RCRA/Hazardous wastes

Ignitability (Flash Pt.) ()
 Reactivity (CN & S) ()
 RCRA Metals ()
 Organics-BNA ()
 TOX ()

Corrosivity ()
 TCLP ()
 Organics-Pest/Herb ()
 Organics-VOA ()

4. Specific Organics

Volatiles ()
 Pesticides/PCB's ()
 Herbicides ()
 BTEX ()
 TTO & Dioxin ()

Phenols GC ()
 Semi-Volatiles (BNA) ()
 PCB's Only ()
 TPH 418.1 ()
 TIO ()
 TPH 8015 ()
 Lindane ()

5. Microbiology

Fecal Coliform ()

Total Coliform ()

Comments:

Sample type legend:

grab samples x
 composite samples xx

Turnaround time: Sampling Equipment:

1 day () Automatic Sampler ()
 2 days () Sample Pick Up ()
 3 days ()
 5 days ()

Note: normal turnaround time is ten (10) working days;
 additional charges apply for rush orders.

Original

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BECKTON ENVIRONMENTAL
LABORATORIES, INC.



REPORT OF ANALYSIS

ATTENTION: Mr. Héctor Ávila
COMPANY: AES Puerto Rico - Guayama

DATE: April 11, 2014

CONTRACT: AES - Guayama

SAMPLE IDENTIFICATION: FLY ASH

SAMPLER: Client
MATRIX: Solid
SAMPLE WT/VOL: 25 (g/mL) g

LAB. SAMPLE ID: BEL-1401290
LAB. FILE ID: 1401290
DATE SAMPLED: 04/02/14
DATE RECEIVED: 04/02/14
DATE EXTRACTED: 04/04/14 (TCLP)
DATE ANALYZED: 04/07/14 (Metals)
04/09/14 (Hg)

ANALYST: BTR (Metals)
HS (Hg)

MAXIMUM CONCENTRATION OF CONTAMINANTS FOR CHARACTERISTIC OF TCLP TOXICITY

EPA HAZARDOUS WASTE NUMBER	CONTAMINANT	BEL-1401290 RESULTS (mg/L)	METHOD DETECTION LIMIT (mg/L)	REGULATORY LEVEL (mg/L)
-------------------------------	-------------	----------------------------------	-------------------------------------	-------------------------------

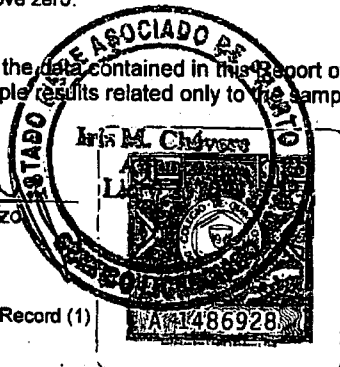
METALS (SW 846 6010C/7470A)

D004	Arsenic	<0.001	0.001	5.0
D005	Barium	1.30	0.001	100.0
D006	Cadmium	<0.001	0.001	1.0
D007	Chromium	0.087	0.001	5.0
D008	Lead	0.014	0.001	5.0
D009	Mercury	0.00008	0.00005	0.2
D010	Selenium	0.081	0.002	1.0
D011	Silver	<0.001	0.001	5.0

Method Detection Limit (MDL)-The minimum concentration of a substance that can be measured and reported with 99% confidence that the value is above zero.

Certification and release of the data contained in this Report of Analysis has been authorized by the Laboratory Manager or the Manager's Designee. Sample results related only to the sample submitted.

Lcda. Iris M. Chévere Alfonzo
Laboratory Director
Chemist License 2370



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BECKTON ENVIRONMENTAL LABORATORIES

192 Villa Street • Ponce, P.R. 00730-4875

Tel. 787-841-7373 • Fax 787-841-7313

REVISION 2009

CHAIN OF CUSTODY RECORD

PROJECT NO	COMPANY	SAMPLE
	AES Guayama	Client
SAMPLE LOCATION/CLIENT ID	Fly Ash	TIME
SAMPLE DATE	4-2-14	9:30 AM
		BEL. NO.
		1401290
		CONTROL NO
		174477

1 General Environmental:

Acidity ()

Ammonia as N ()

BOD-5 ()

Chloride ()

COD ()

Conductivity $\mu\text{mhos/cm}$ ()

Dissolved Oxygen ()

Hardness ()

Moisture % ()

Nitrite ()

Oil+Grease ()

Phenol ()

Phosphorus, Total ()

Sett Solids mg/L ()

Sulfate ()

Sulfite ()

TDS ()

Temperature, °C ()

TOC ()

Asbestos ()

TVS ()

Total Nitrogen ()

2. Metals:

Aluminum (Al) ()

Chromium (Cr) ()

Iron (Fe) ()

Manganese (Mn) ()

Nickel (Ni) ()

Silver (Ag) ()

Zinc (Zn) ()

Barium (Ba) ()

Antimony (Sb) ()

Bismuth (Bi) ()

Chromium, VI (CrVI) ()

Magnesium (Mg) ()

Potassium (K) ()

Sodium (Na) ()

Thallium (Tl) ()

Vanadium (V) ()

3 RCRA/Hazardous wastes

Ignitability (Flash Pt.) ()

Reactivity (CN & S) ()

RCRA Metals ()

Organics-BNA ()

TOX ()

4. Specific Organics

Volatiles ()

Pesticides/PCB's ()

Herbicides ()

BTEX ()

TTO & Dioxin ()

5 Microbiology

Fecal Coliform ()

PC

VSS

Alkalinity ()

Bicarbonate ()

Bromide ()

Chlorine, Res. ()

Color (ADMI) ()

Color (Pt-Co) ()

Cyanide ()

Fluoride ()

Iodide ()

Nitrate ()

Nitrate + Nitrite ()

pH, S.U. ()

Phosphate, Ortho ()

Sett Solids mL/L ()

Solids, Total ()

Sulfide ()

Surfactant ()

TSS ()

TKN ()

Turbidity ()

Carbonate ()

PC

Sampling Witness;

Date/Time:

Relinquished by:

Date/Time:

Received by:

Date/Time:

Relinquished by:

Date/Time:

Received by:

Date/Time:

Relinquished by:

Date/Time:

Received by:

Date/Time:

Matrix

air () water () sludge ()

liquid () soil () solid ()

oil () mixed () other ()

Specify:

Preservative Codes = PC

1. Cool, <6°C

2. Sulfuric Acid (H_2SO_4) pH<23. Nitric Acid (HNO_3), pH<2

4. Hydrochloric acid (HCl)

5. Sodium Thiosulfate

6. Sodium Hydroxide (NaOH)

7. Zinc Acetate

8. Ascorbic Acid

9. FAS

10. Other

Sample type legend:

grab samples x

composite samples xx

Turnaround time: Sampling Equipment:

1 day () Automatic Sampler ()

2 days () Sample Pick Up ()

3 days ()

5 days ()

Note: normal turnaround time is ten (10) working days;

additional charges apply for rush orders.

Comments:

Original

48



BECKTON ENVIRONMENTAL
LABORATORIES, INC.



REPORT OF ANALYSIS

ATTENTION: Mr. Héctor Ávila
COMPANY: AES Puerto Rico - Guayama

DATE: April 11, 2014

CONTRACT: AES - Guayama

SAMPLE IDENTIFICATION: AGREMAX

SAMPLER: Client
MATRIX: Solid
SAMPLE WT/VOL: 25 (g/mL) g

LAB. SAMPLE ID: BEL-1401291
LAB. FILE ID: 1401291
DATE SAMPLED: 04/02/14
DATE RECEIVED: 04/02/14
DATE EXTRACTED: 04/04/14 (TCLP)
DATE ANALYZED: 04/07/14 (Metals)
04/09/14 (Hg)

ANALYST: BTR (Metals)
HS (Hg)

MAXIMUM CONCENTRATION OF CONTAMINANTS FOR CHARACTERISTIC OF TCLP TOXICITY

EPA HAZARDOUS WASTE NUMBER	CONTAMINANT	BEL-1401291 RESULTS (mg/L)	METHOD DETECTION LIMIT (mg/L)	REGULATORY LEVEL (mg/L)
-------------------------------	-------------	----------------------------------	-------------------------------------	-------------------------------

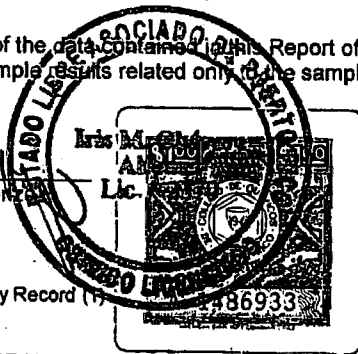
METALS (SW 846 6010C/7470A)

D004	Arsenic	<0.001	0.001	5.0
D005	Barium	0.335	0.001	100.0
D006	Cadmium	<0.001	0.001	1.0
D007	Chromium	0.034	0.001	5.0
D008	Lead	0.012	0.001	5.0
D009	Mercury	<0.00005	0.00005	0.2
D010	Selenium	0.066	0.002	1.0
D011	Silver	<0.001	0.001	5.0

Method Detection Limit (MDL)-The minimum concentration of a substance that can be measured and reported with 99% confidence that the value is above zero.

Certification and release of the data contained in this Report of Analysis has been authorized by the Laboratory Manager or the Manager's Designee. Sample results related only to the sample submitted.

Lcda. Iris M. Chévere Alfonso
Laboratory Director
Chemist License 2370



Attachment: Chain of Custody Record (1)

PAGE 1 OF 1

THE NELAC CERTIFIED ANALYSES MEET ALL REQUIREMENTS OF NELAC STANDARDS.
REFER OUR SERVICE DEPARTMENT FOR THE CURRENT LIST OF CERTIFIED ANALYSES.
CERTIFIED BY THE STATE OF FLORIDA DEPARTMENT OF HEALTH AND REHABILITATION SERVICES FOR ENVIRONMENTAL TESTING
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BECKTON ENVIRONMENTAL LABORATORIES

192 Villa Street • Ponce, P.R. 00730-4875

Tel. 787-841-7373 • Fax 787-841-7313

REVISION 2009

CHAIN OF CUSTODY RECORD

PROJECT NO	COMPANY <i>AES Guayama</i>	SAMPLER <i>Client</i>
SAMPLE LOCATION/CLIENT ID <i>Agromex</i>	TIME <i>9:30 AM</i>	CONTROL NO. <i>174478</i>
SAMPLE DATE <i>4-2-14</i>	BEL. NO. <i>1401291</i>	

1. General Environmental	PC	VSS	PC
Acidity ()	—	Alkalinity ()	—
Ammonia as N ()	—	Bicarbonate ()	—
BOD-5 ()	—	Bromide ()	—
Chloride ()	—	Chlorine, Res ()	—
COD ()	—	Color (ADMI) ()	—
Conductivity μ mhos/cm ()	—	Color (Pt-Co) ()	—
Dissolved Oxygen ()	—	Cyanide ()	—
Hardness ()	—	Fluoride ()	—
Moisture % ()	—	Iodide ()	—
Nitrite ()	—	Nitrate ()	—
Oil+Grease ()	—	Nitrate + Nitrite ()	—
Phenol ()	—	pH, S.U. ()	—
Phosphorus, Total ()	—	Phosphate, Ortho ()	—
Sett Solids mg/L ()	—	Sett. Solids mL/L ()	—
Sulfate ()	—	Solids, Total ()	—
Sulfite ()	—	Sulfide ()	—
TDS ()	—	Surfactant ()	—
Temperature, °C ()	—	TSS ()	—
TOC ()	—	TKN ()	—
Asbestos ()	—	Turbidity ()	—
TVS ()	—	Carbonate ()	—
Total Nitrogen ()	—		
2. Metals			
Aluminum (Al) ()	—	Cadmium (Cd) ()	—
Chromium (Cr) ()	—	Copper (Cu) ()	—
Iron (Fe) ()	—	Lead (Pb) ()	—
Manganese (Mn) ()	—	Mercury (Hg) ()	—
Nickel (Ni) ()	—	Selenium (Se) ()	—
Silver (Ag) ()	—	Tin (Sn) ()	—
Zinc (Zn) ()	—	Arsenic (As) ()	—
Barium (Ba) ()	—	Boron (B) ()	—
Antimony (Sb) ()	—	Beryllium (Be) ()	—
Bismuth (Bi) ()	—	Calcium (Ca) ()	—
Chromium, VI (CrVI) ()	—	Cobalt (Co) ()	—
Magnesium (Mg) ()	—	Molybdenum (Mo) ()	—
Potassium (K) ()	—	Silicon (Si) ()	—
Sodium (Na) ()	—	Strontium (Sr) ()	—
Thallium (Tl) ()	—	Titanium (Ti) ()	—
Vanadium (V) ()	—	Lithium (Li) ()	—
3. RCRA/Hazardous wastes			
Ignitability (Flash Pt.) ()	—	Corrosivity ()	—
Reactivity (CN & S) ()	—	TCLP ()	—
RCRA Metals ()	—	Organics-Pest/Herb ()	—
Organics-BNA ()	—	Organics-VOA ()	—
TOX ()	—		
4. Specific Organics			
Volatiles ()	—	Phenols GC ()	—
Pesticides/PCB's ()	—	Semi-Volatiles (BNA) ()	—
Herbicides ()	—	PCB's Only ()	—
BTEX ()	—	TPH 418 I ()	—
TTO & Dioxin ()	—	TTO ()	—
		TPH 8015 ()	—
		Lindane ()	—
5. Microbiology			
Fecal Coliform ()	—	Total Coliform ()	—

Comments:

Sampling Witness:

Date/Time:

Relinquished by:

Date/Time:

Received by:

Date/Time:

Relinquished by:

Date/Time:

Received by:

Date/Time:

Relinquished by:

Date/Time:

Received by:

Date/Time:

Matrix

air ()	water ()	sludge ()
liquid ()	soil ()	solid ()
oil ()	mixed ()	other ()

Specify:

Preservative Codes = PC

- | | |
|---|----------------------------|
| 1. Cool, <6°C | 6. Sodium Hydroxide (NaOH) |
| 2. Sulfuric Acid (H ₂ SO ₄) pH<2 | 7. Zinc Acetate |
| 3. Nitric Acid (HNO ₃) pH<2 | 8. Ascorbic Acid |
| 4. Hydrochloric acid (HCl) | 9. FAS |
| 5. Sodium Thiosulfate | 10. Other |

Sample type legend:

grab samples	x
composite samples	xx

Turnaround time: Sampling Equipment:

1 day ()	Automatic Sampler ()
2 days ()	Sample Pick Up ()
3 days ()	
5 days ()	

Note: normal turnaround time is ten (10) working days;
additional charges apply for rush orders.

Original

Appendix 8.3

Agremax June 2014 TCLP Results



BECKTON ENVIRONMENTAL
LABORATORIES, INC.



REPORT OF ANALYSIS

ATTENTION: Mr. Carlos González
COMPANY: AES Puerto Rico - Guayama

DATE: June 6, 2014

CONTRACT: AES - Guayama

SAMPLE IDENTIFICATION: #1 - 3,000 TON COMP.

SAMPLER: Client
MATRIX: Solid
SAMPLE WT/VOL: 25 (g/mL) g

LAB. SAMPLE ID: BEL-1402378
LAB. FILE ID: 1402378
DATE SAMPLED: 06/01/14
DATE RECEIVED: 06/02/14
DATE EXTRACTED: 06/03/14 (TCLP)
DATE ANALYZED: 06/05/14 (Metals)
06/05/14 (Hg)

ANALYST: BTR (Metals)
HS (Hg)

MAXIMUM CONCENTRATION OF CONTAMINANTS FOR CHARACTERISTIC OF TCLP TOXICITY

EPA HAZARDOUS WASTE NUMBER	CONTAMINANT	BEL-1402378 RESULTS (mg/L)	METHOD DETECTION LIMIT (mg/L)	REGULATORY LEVEL (mg/L)
-------------------------------	-------------	----------------------------------	-------------------------------------	-------------------------------

METALS (SW 846 6010C/7470A)

D004	Arsenic	<0.001	0.001	5.0
D005	Barium	0.070	0.001	100.0
D006	Cadmium	<0.001	0.001	1.0
D007	Chromium	0.034	0.001	5.0
D008	Lead	0.004	0.001	5.0
D009	Mercury	<0.00005	0.00005	0.2
D010	Selenium	0.124	0.002	1.0
D011	Silver	<0.001	0.001	5.0

Method Detection Limit (MDL)-The minimum concentration of a substance that can be measured and reported with 99% confidence that the value is above zero.

Certification and release of the data contained in this Report of Analysis has been authorized by the Laboratory Manager or the Manager's Designee. Sample results related only to the sample submitted.

Lcda. Iris M. Chévere Alfonso
Laboratory Director
Chemist License 2370

Attachment: Chain of Custody Record (1)

PAGE 1 OF 1

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CERTIFIED BY THE STATE OF FLORIDA DEPARTMENT OF HEALTH AND REHABILITATION SERVICES FOR ENVIRONMENTAL TESTING
• CERTIFICATION NUMBER E87556 •
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BECKTON ENVIRONMENTAL LABORATORIES

192 Villa Street • Ponce, P.R. 00730-4875

Tel. 787-841-7373 • Fax 787-841-7313

REVISION 2009

CHAIN OF CUSTODY RECORD

PROJECT NO.	COMPANY <i>AES Guayama</i>	SAMPLER <i>Chart</i>
SAMPLE LOCATION/CLIENT ID <i>#1 - 3000 TON Comp.</i>	TIME <i>5:25 AM</i>	CONTROL NO. <i>176843</i>
SAMPLE DATE <i>6-1-14</i>	BEL. NO. <i>1402378</i>	

1. General Environmental:	PC	VSS	PC
Acidity ()	—	Alkalinity ()	—
Ammonia as N ()	—	Bicarbonate ()	—
BOD-5 ()	—	Bromide ()	—
Chloride ()	—	Chlorine, Res. ()	—
COD ()	—	Color (ADMI) ()	—
Conductivity μ mhos/cm ()	—	Color (Pt-Co) ()	—
Dissolved Oxygen ()	—	Cyanide ()	—
Hardness ()	—	Fluoride ()	—
Moisture % ()	—	Iodide ()	—
Nitrite ()	—	Nitrate ()	—
Oil+Grease ()	—	Nitrate + Nitrite ()	—
Phenol ()	—	pH, S.U. ()	—
Phosphorus, Total ()	—	Phosphate, Ortho ()	—
Sett. Solids mg/L ()	—	Sett. Solids mL/L ()	—
Sulfate ()	—	Solids, Total ()	—
Sulfite ()	—	Sulfide ()	—
TDS ()	—	Surfactant ()	—
Temperature, °C ()	—	TSS ()	—
TOC ()	—	TKN ()	—
Asbestos ()	—	Turbidity ()	—
TVS ()	—	Carbonate ()	—
Total Nitrogen ()	—		
2. Metals:			
Aluminum (Al) ()	—	Cadmium (Cd) ()	—
Chromium (Cr) ()	—	Copper (Cu) ()	—
Iron (Fe) ()	—	Lead (Pb) ()	—
Manganese (Mn) ()	—	Mercury (Hg) ()	—
Nickel (Ni) ()	—	Selenium (Se) ()	—
Silver (Ag) ()	—	Tin (Sn) ()	—
Zinc (Zn) ()	—	Arsenic (As) ()	—
Barium (Ba) ()	—	Boron (B) ()	—
Antimony (Sb) ()	—	Beryllium (Be) ()	—
Bismuth (Bi) ()	—	Calcium (Ca) ()	—
Chromium, VI (CrVI) ()	—	Cobalt (Co) ()	—
Magnesium (Mg) ()	—	Molybdenum (Mo) ()	—
Potassium (K) ()	—	Silicon (Si) ()	—
Sodium (Na) ()	—	Strontium (Sr) ()	—
Thallium (Tl) ()	—	Titanium (Ti) ()	—
Vanadium (V) ()	—	Lithium (Li) ()	—
3. RCRA/Hazardous wastes			
Ignitability (Flash Pt.) ()	—	Corrosivity ()	—
Reactivity (CN & S) ()	—	TCLP ()	—
RCRA Metals ()	+	Organics-Pest/Herb ()	—
Organics-BNA ()	—	Organics-VOA ()	—
TOX ()	—		
4. Specific Organics			
Volatiles ()	—	Phenols GC ()	—
Pesticides/PCB's ()	—	Semi-Volatiles (BNA) ()	—
Herbicides ()	—	PCB's Only ()	—
BTEX ()	—	TPH 418.1 ()	—
TTO & Dioxin ()	—	TTO ()	—
		TPH 8015 ()	—
		Lindane ()	—
5. Microbiology			
Fecal Coliform ()	—	Total Coliform ()	—

Comments: ** Resultados a Carlos Gonzalez*
y copia a Eiker Riquena

Sampling Witness: _____

Date/Time: _____

Relinquished by: *Carlos Gonzalez*Date/Time: *6/02/2014 @ 2:25 P*Received by: *Victor Luis Arment*Date/Time: *6-2-14 2:25 PM*Relinquished by: *Victor Luis Arment*Date/Time: *6-2-14 3:45 PM*Received by: *Wendy C. Ojeda Rios*Date/Time: *6/2/14 3:57 PM*

Relinquished by: _____

Date/Time: _____

Received by: _____

Date/Time: _____

Matrix

air ()	water ()	sludge ()
liquid ()	soil ()	solid ()
oil ()	mixed ()	other ()

Specify: _____

Preservative Codes = PC

- | | |
|--|----------------------------|
| 1. Cool, <6° C | 6. Sodium Hydroxide (NaOH) |
| 2. Sulfuric Acid (H ₂ SO ₄), pH<2 | 7. Zinc Acetate |
| 3. Nitric Acid (HNO ₃), pH<2 | 8. Ascorbic Acid |
| 4. Hydrochloric acid (HCl) | 9. FAS |
| 5. Sodium Thiosulfate | 10. Other |

Sample type legend:

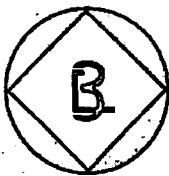
grab samples	x
composite samples	xx

Turnaround time: Sampling Equipment:

- | | |
|------------|-----------------------|
| 1 day () | Automatic Sampler () |
| 2 days () | Sample Pick Up () |
| 3 days () | |
| 5 days () | |

Note: normal turnaround time is ten (10) working days;
 additional charges apply for rush orders.

Original



BECKTON ENVIRONMENTAL
LABORATORIES, INC.



REPORT OF ANALYSIS

ATTENTION: Mr. Carlos González
COMPANY: AES Puerto Rico - Guayama

DATE: June 6, 2014

CONTRACT: AES - Guayama

SAMPLE IDENTIFICATION: #2 - 3,000 TON COMP.

SAMPLER: Client
MATRIX: Solid
SAMPLE WT/VOL: 25 (g/mL) g

LAB. SAMPLE ID: BEL-1402379
LAB. FILE ID: 1402379
DATE SAMPLED: 06/02/14
DATE RECEIVED: 06/02/14
DATE EXTRACTED: 06/03/14 (TCLP)
DATE ANALYZED: 06/05/14 (Metals)
06/05/14 (Hg)

ANALYST: BTR (Metals)
HS (Hg)

MAXIMUM CONCENTRATION OF CONTAMINANTS FOR CHARACTERISTIC OF TCLP TOXICITY

EPA HAZARDOUS WASTE NUMBER	CONTAMINANT	BEL-1402379 RESULTS (mg/L)	METHOD DETECTION LIMIT (mg/L)	REGULATORY LEVEL (mg/L)
-------------------------------	-------------	----------------------------------	-------------------------------------	-------------------------------

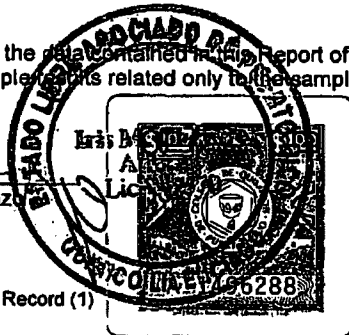
METALS (SW 846 6010C/7470A)

D004	Arsenic	<0.001	0.001	5.0
D005	Barium	0.049	0.001	100.0
D006	Cadmium	<0.001	0.001	1.0
D007	Chromium	0.036	0.001	5.0
D008	Lead	0.005	0.001	5.0
D009	Mercury	<0.00005	0.00005	0.2
D010	Selenium	0.112	0.002	1.0
D011	Silver	<0.001	0.001	5.0

Method Detection Limit (MDL)-The minimum concentration of a substance that can be measured and reported with 99% confidence that the value is above zero.

Certification and release of the data contained in this Report of Analysis has been authorized by the Laboratory Manager or the Manager's Designee. Sample results related only to the sample submitted.

Lcda. Iris M. Chévere Alfonso
Laboratory Director
Chemist License 2370



Attachment: Chain of Custody Record (1)

PAGE 1 OF 1

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CHAIN OF CUSTODY RECORD

Tel. 787-841-7373 • Fax 787-841-7313

PROJECT NO.		COMPANY <i>AES Guayama</i>		SAMPLER <i>Chart</i>	
SAMPLE LOCATION/CLIENT ID <i>#2 - 3,000 TON Comp.</i>		TIME <i>5:00</i>		CONTROL NO. <i>176840</i>	
SAMPLE DATE <i>6-2-14</i>		BEL. NO. <i>1402379</i>			

1. General Environmental:			PC	VSS	
Acidity	()	—	Alkalinity	()	—
Ammonia as N	()	—	Bicarbonate	()	—
BOD-5	()	—	Bromide	()	—
Chloride	()	—	Chlorine, Res.	()	—
COD	()	—	Color (ADM)	()	—
Conductivity $\mu\text{mhos/cm}$	()	—	Color (Pt-Co)	()	—
Dissolved Oxygen	()	—	Cyanide	()	—
Hardness	()	—	Fluoride	()	—
Moisture %	()	—	Iodide	()	—
Nitrite	()	—	Nitrate	()	—
Oil+Grease	()	—	Nitrate + Nitrite	()	—
Phenol	()	—	pH, S.U.	()	—
Phosphorus, Total	()	—	Phosphate, Ortho	()	—
Sett Solids mg/L	()	—	Sett. Solids mL/L	()	—
Sulfate	()	—	Solids, Total	()	—
Sulfite	()	—	Sulfide	()	—
TDS	()	—	Surfactant	()	—
Temperature, °C	()	—	TSS	()	—
TOC	()	—	TKN	()	—
Asbestos	()	—	Turbidity	()	—
TVS	()	—	Carbonate	()	—
Total Nitrogen	()	—			
2. Metals:					
Aluminum (Al)	()	—	Cadmium (Cd)	()	—
Chromium (Cr)	()	—	Copper (Cu)	()	—
Iron (Fe)	()	—	Lead (Pb)	()	—
Manganese (Mn)	()	—	Mercury (Hg)	()	—
Nickel (Ni)	()	—	Selenium (Se)	()	—
Silver (Ag)	()	—	Tin (Sn)	()	—
Zinc (Zn)	()	—	Arsenic (As)	()	—
Barium (Ba)	()	—	Boron (B)	()	—
Antimony (Sb)	()	—	Beryllium (Be)	()	—
Bismuth (Bi)	()	—	Calcium (Ca)	()	—
Chromium, VI (CrVI)	()	—	Cobalt (Co)	()	—
Magnesium (Mg)	()	—	Molybdenum (Mo)	()	—
Potassium (K)	()	—	Silicon (Si)	()	—
Sodium (Na)	()	—	Strontium (Sr)	()	—
Thallium (Tl)	()	—	Titanium (Ti)	()	—
Vanadium (V)	()	—	Lithium (Li)	()	—

3. RCRA/Hazardous wastes			
Ignitability (Flash Pt.) ()	—	Corrosivity ()	—
Reactivity (CN & S) ()	—	TCCLP ()	—
RCRA Metals (X)	I	Organics-Pest/Herb ()	—
Organics-BNA ()	—	Organics-VOA ()	—
TOX ()	—		

4. Specific Organics		Phenols GC	()	_____
Volatiles	()	Semi-Volatiles (BNA)	()	_____
Pesticides/PCB's	()	PCB's Only	()	_____
Herbicides	()	TPH 418.1	()	_____
BTEX	()	TTO	()	_____
TTO & Dioxin	()	TPH 8015	()	_____

5. Microbiology	
Fecal Coliform	()
Total Coliform	()

Comments: *He just told me now*

Carlos Gonzalez Cuyia
Giter Nguessa

Sampling Witness; _____

Date/Time: _____

Relinquished by: A. J. [Signature]

Date/Time: 06/02/14 @ 2:25

Received by:

Wm. Linn Herbert

Date/Time: 6-2-14 12:25 PM

Relinquished by: [Signature]

Nat'l. Bureau of Standards

Date/Time: 6-2-14 2:40 PM

Received by: 10/11/01

And, e Nyon' Linnu

Date/Time: 6/2/14 3:50pm

Relinquished by:

Date/Time: _____

Received by: _____

Date/Time: _____

Matrix

air () water () sludge ()
liquid () soil () solid ()
oil () mixed () other ()

Specify: _____

Preservative Codes = PC

1. Cool, $<6^{\circ}\text{C}$
2. Sulfuric Acid (H_2SO_4), $\text{pH}<2$
3. Nitric Acid (HNO_3), $\text{pH}<2$
4. Hydrochloric acid (HCl)
5. Sodium Thiosulfate
6. Sodium Hydroxide(NaOH)
7. Zinc Acetate
8. Ascorbic Acid
9. FAS
10. Other

Sample type legend:

grab samples	x
composite samples	xx

Turnaround time: **Sampling Equipment:**

1 day () Automatic Sampler ()
2 days () Sample Pick Up ()
3 days ()
5 days ()

Note: normal turnaround time is ten (10) working days;
additional charges apply for rush orders.

Original



BECKTON ENVIRONMENTAL
LABORATORIES, INC.



REPORT OF ANALYSIS

ATTENTION: Mr. Carlos González
COMPANY: AES Puerto Rico - Guayama

DATE: June 6, 2014

CONTRACT: AES - Guayama

SAMPLE IDENTIFICATION: #3 - 3,000 TON COMP.

SAMPLER: Client
MATRIX: Solid
SAMPLE WT/VOL: 25 (g/mL) g

LAB. SAMPLE ID: BEL-1402380
LAB. FILE ID: 1402380
DATE SAMPLED: 06/02/14
DATE RECEIVED: 06/02/14
DATE EXTRACTED: 06/03/14 (TCLP)
DATE ANALYZED: 06/05/14 (Metals)
06/05/14 (Hg)

ANALYST: BTR (Metals)
HS (Hg)

MAXIMUM CONCENTRATION OF CONTAMINANTS FOR CHARACTERISTIC OF TCLP TOXICITY


EPA HAZARDOUS WASTE NUMBER	CONTAMINANT	BEL-1402380 RESULTS (mg/L)	METHOD DETECTION LIMIT (mg/L)	REGULATORY LEVEL (mg/L)
-------------------------------	-------------	----------------------------------	-------------------------------------	-------------------------------

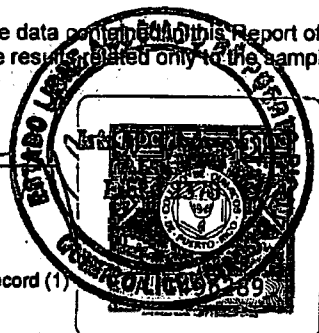
METALS (SW 846 6010C/7470A)

D004	Arsenic	<0.001	0.001	5.0
D005	Barium	0.098	0.001	100.0
D006	Cadmium	<0.001	0.001	1.0
D007	Chromium	0.029	0.001	5.0
D008	Lead	0.006	0.001	5.0
D009	Mercury	<0.00005	0.00005	0.2
D010	Selenium	0.104	0.002	1.0
D011	Silver	<0.001	0.001	5.0

Method Detection Limit (MDL)-The minimum concentration of a substance that can be measured and reported with 99% confidence that the value is above zero.

Certification and release of the data contained in this Report of Analysis has been authorized by the Laboratory Manager or the Manager's Designee. Sample results are valid only for the sample submitted.


Lcda. Iris M. Chévere Alfonzo
Laboratory Director
Chemist License 2370



Attachment: Chain of Custody Record (1)

PAGE 1 OF 1

THE NELAC CERTIFIED ANALYSES MEET ALL REQUIREMENTS OF NELAC STANDARDS.
REFER OUR SERVICE DEPARTMENT FOR THE CURRENT LIST OF CERTIFIED ANALYSES.
CERTIFIED BY THE STATE OF FLORIDA DEPARTMENT OF HEALTH AND REHABILITATION SERVICES FOR ENVIRONMENTAL TESTING
• CERTIFICATION NUMBER E87558 •
192 VILLA STREET • PONCE, PR 00730-4875 • TEL. (787) 841-7373 • FAX (787) 841-7313

BECKTON ENVIRONMENTAL LABORATORIES

192 Villa Street • Ponce, P.R. 00730-4875

Tel. 787-841-7373 • Fax 787-841-7313

REVISION 2009

CHAIN OF CUSTODY RECORD

PROJECT NO.	COMPANY <i>RES. Guayama</i>	SAMPLER <i>Chiat</i>
SAMPLE LOCATION/CLIENT ID <i>#3 - 3000 TON comp.</i>	TIME <i>11:00 AM</i>	CONTROL NO. <i>176841</i>
SAMPLE DATE <i>6-2-14</i>	BEL. NO. <i>1402380</i>	

1. General Environmental:

Acidity ()
 Ammonia as N ()
 BOD-5 ()
 Chloride ()
 COD ()
 Conductivity μ mhos/cm ()
 Dissolved Oxygen ()
 Hardness ()
 Moisture % ()
 Nitrite ()
 Oil+Grease ()
 Phenol ()
 Phosphorus, Total ()
 Sett Solids mg/L ()
 Sulfate ()
 Sulfite ()
 TDS ()
 Temperature, °C ()
 TOC ()
 Asbestos ()
 TVS ()
 Total Nitrogen ()

PC

VSS

Alkalinity ()
 Bicarbonate ()
 Bromide ()
 Chlorine, Res. ()
 Color (ADMI) ()
 Color (Pt-Co) ()
 Cyanide ()
 Fluoride ()
 Iodide ()
 Nitrate ()
 Nitrate + Nitrite ()
 pH, S.U. ()
 Phosphate, Ortho ()
 Sett. Solids mL/L ()
 Solids, Total ()
 Sulfide ()
 Surfactant ()
 TSS ()
 TKN ()
 Turbidity ()
 Carbonate ()

PC

Sampling Witness:

Date/Time:

Relinquished by:

Date/Time:

Received by:

Date/Time:

Relinquished by:

Date/Time:

Received by:

Date/Time:

Relinquished by:

Date/Time:

Received by:

Date/Time:

Matrix

air () water () sludge ()
 liquid () soil () solid (X)
 oil () mixed () other ()

Specify:

Preservative Codes = PC

- | | |
|---|----------------------------|
| 1. Cool, <6°C | 6. Sodium Hydroxide (NaOH) |
| 2. Sulfuric Acid (H ₂ SO ₄) pH<2 | 7. Zinc Acetate |
| 3. Nitric Acid (HNO ₃) pH<2 | 8. Ascorbic Acid |
| 4. Hydrochloric acid (HCl) | 9. FAS |
| 5. Sodium Thiosulfate | 10. Other |

Sample type legend:

grab samples x
 composite samples xx

Turnaround time: Sampling Equipment:

- 1 day () Automatic Sampler ()
 2 days () Sample Pick Up ()
 3 days ()
 5 days ()

Note: normal turnaround time is ten (10) working days;
additional charges apply for rush orders.

2. Metals:

Aluminum (Al) ()
 Chromium (Cr) ()
 Iron (Fe) ()
 Manganese (Mn) ()
 Nickel (Ni) ()
 Silver (Ag) ()
 Zinc (Zn) ()
 Barium (Ba) ()
 Antimony (Sb) ()
 Bismuth (Bi) ()
 Chromium, VI (CrVI) ()
 Magnesium (Mg) ()
 Potassium (K) ()
 Sodium (Na) ()
 Thallium (Tl) ()
 Vanadium (V) ()

Cadmium (Cd) ()
 Copper (Cu) ()
 Lead (Pb) ()
 Mercury (Hg) ()
 Selenium (Se) ()
 Tin (Sn) ()
 Arsenic (As) ()
 Boron (B) ()
 Beryllium (Be) ()
 Calcium (Ca) ()
 Cobalt (Co) ()
 Molybdenum (Mo) ()
 Silicon (Si) ()
 Strontium (Sr) ()
 Titanium (Ti) ()
 Lithium (Li) ()

3. RCRA/Hazardous wastes

Ignitability (Flash Pt.) ()
 Reactivity (CN & S) ()
 RCRA Metals (X)
 Organics-BNA ()
 TOX ()

Corrosivity ()
 TCLP ()
 Organics-Pest/Herb ()
 Organics-VOA ()

4. Specific Organics

Volatiles ()
 Pesticides/PCB's ()
 Herbicides ()
 BTEX ()
 TTO & Dioxin ()

Phenols GC ()
 Semi-Volatiles (BNA) ()
 PCB's Only ()
 TPH 418.1 ()
 TTO ()
 TPH 8015 ()
 Lindane ()

5. Microbiology

Fecal Coliform ()

Total Coliform ()

Comments:

Resultados para Carlos Gonzalez
Copia a Erik Agueron

Original



BECKTON ENVIRONMENTAL
LABORATORIES, INC.



REPORT OF ANALYSIS

ATTENTION: Mr. Carlos González
COMPANY: AES Puerto Rico - Guayama

DATE: June 6, 2014

CONTRACT: AES - Guayama

SAMPLE IDENTIFICATION: #4 - 3,000 TON COMP.

SAMPLER: Client
MATRIX: Solid
SAMPLE WT/VOL: 25 (g/mL) g

LAB. SAMPLE ID: BEL-1402402
LAB. FILE ID: 1402402
DATE SAMPLED: 06/02/14
DATE RECEIVED: 06/02/14
DATE EXTRACTED: 06/03/14 (TCLP)
DATE ANALYZED: 06/05/14 (Metals)
06/05/14 (Hg)

ANALYST: BTR (Metals)
HS (Hg)

MAXIMUM CONCENTRATION OF CONTAMINANTS FOR CHARACTERISTIC OF TCLP TOXICITY

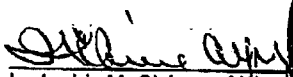
EPA HAZARDOUS WASTE NUMBER	CONTAMINANT	BEL-1402402 RESULTS (mg/L)	METHOD DETECTION LIMIT (mg/L)	REGULATORY LEVEL (mg/L)
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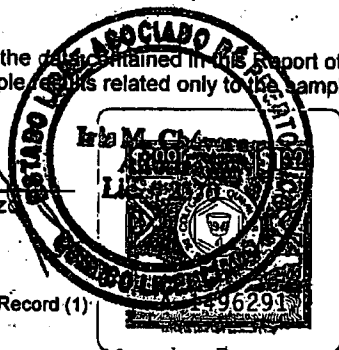
METALS (SW 846 6010C/7470A)

D004	Arsenic	<0.001	0.001	5.0
D005	Barium	0.073	0.001	100.0
D006	Cadmium	<0.001	0.001	1.0
D007	Chromium	0.024	0.001	5.0
D008	Lead	0.005	0.001	5.0
D009	Mercury	<0.00005	0.00005	0.2
D010	Selenium	0.085	0.002	1.0
D011	Silver	<0.001	0.001	5.0

Method Detection Limit (MDL)-The minimum concentration of a substance that can be measured and reported with 99% confidence that the value is above zero.

Certification and release of the data contained in this Report of Analysis has been authorized by the Laboratory Manager or the Manager's Designee. Sample results related only to the sample submitted.


Lcda. Iris M. Chévere Alfonzo
Laboratory Director
Chemist License 2370



Attachment: Chain of Custody Record (1)

PAGE 1 OF 1

THE NELAC CERTIFIED ANALYSES MEET ALL REQUIREMENTS OF NELAC STANDARDS.
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• CERTIFICATION NUMBER E87556 •
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BECKTON ENVIRONMENTAL LABORATORIES

192 Villa Street • Ponce, P.R. 00730-4875

Tel. 787-841-7373 • Fax 787-841-7313

REVISION 2009

CHAIN OF CUSTODY RECORD

PROJECT NO.	COMPANY AES Guayama	SAMPLER Diast
SAMPLE LOCATION/CLIENT ID	#4 3000 ton Comp.	TIME 6:40 AM
SAMPLE DATE	6-2-14	BEL. NO. 1402402
		CONTROL NO. 176900

1. General Environmental:

Acidity ()
 Ammonia as N ()
 BOD-5 ()
 Chloride ()
 COD ()
 Conductivity μ mhos/cm ()
 Dissolved Oxygen ()
 Hardness ()
 Moisture % ()
 Nitrite ()
 Oil+Grease ()
 Phenol ()
 Phosphorus, Total ()
 Sett Solids mg/L ()
 Sulfate ()
 Sulfite ()
 TDS ()
 Temperature, °C ()
 TOC ()
 Asbestos ()
 TVS ()
 Total Nitrogen ()

PC

VSS

Alkalinity ()
 Bicarbonate ()
 Bromide ()
 Chlorine, Res. ()
 Color (ADMI) ()
 Color (Pt-Co) ()
 Cyanide ()
 Fluoride ()
 Iodide ()
 Nitrate ()
 Nitrate + Nitrite ()
 pH, S.U. ()
 Phosphate, Ortho ()
 Sett. Solids mL/L ()
 Solids, Total ()
 Sulfide ()
 Surfactant ()
 TSS ()
 TKN ()
 Turbidity ()
 Carbonate ()

PC

Sampling Witness;

Date/Time:

Relinquished by:

Date/Time:

Received by:

Date/Time:

Relinquished by:

Date/Time:

Received by:

Date/Time:

Relinquished by:

Date/Time:

Received by:

Date/Time:

Matrix

air () water () sludge ()
 liquid () soil () solid ()
 oil () mixed () other ()

Specify:

Preservative Codes = PC

- | | |
|---|----------------------------|
| 1. Cool, <6° C | 6. Sodium Hydroxide (NaOH) |
| 2. Sulfuric Acid (H ₂ SO ₄) pH<2 | 7. Zinc Acetate |
| 3. Nitric Acid (HNO ₃) pH<2 | 8. Ascorbic Acid |
| 4. Hydrochloric acid (HCl) | 9. FAS |
| 5. Sodium Thiosulfate | 10. Other |

Sample type legend:

grab samples x
 composite samples xx

Turnaround time: Sampling Equipment:

1 day () Automatic Sampler ()
 2 days () Sample Pick Up ()
 3 days ()
 5 days ()

Note: normal turnaround time is ten (10) working days;
 additional charges apply for rush orders.

2. Metals:

Aluminum (Al) ()
 Chromium (Cr) ()
 Iron (Fe) ()
 Manganese (Mn) ()
 Nickel (Ni) ()
 Silver (Ag) ()
 Zinc (Zn) ()
 Barium (Ba) ()
 Antimony (Sb) ()
 Bismuth (Bi) ()
 Chromium, VI (CrVI) ()
 Magnesium (Mg) ()
 Potassium (K) ()
 Sodium (Na) ()
 Thallium (Tl) ()
 Vanadium (V) ()

Cadmium (Cd) ()
 Copper (Cu) ()
 Lead (Pb) ()
 Mercury (Hg) ()
 Selenium (Se) ()
 Tin (Sn) ()
 Arsenic (As) ()
 Boron (B) ()
 Beryllium (Be) ()
 Calcium (Ca) ()
 Cobalt (Co) ()
 Molybdenum (Mo) ()
 Silicon (Si) ()
 Strontium (Sr) ()
 Titanium (Ti) ()
 Lithium (Li) ()

3. RCRA/Hazardous wastes

Ignitability (Flash Pt.) ()
 Reactivity (CN & S) ()
 RCRA Metals ()
 Organics-BNA ()
 TOX ()

Corrosivity ()
 TCLP ()
 Organics-Pest/Herb ()
 Organics-VOA ()

4. Specific Organics

Volatiles ()
 Pesticides/PCB's ()
 Herbicides ()
 BTEX ()
 TTO & Dioxin ()

Phenols GC ()
 Semi-Volatiles (BNA) ()
 PCB's Only ()
 TPH 418.1 ()
 TTO ()
 TPH 8015 ()
 Lindane ()

5. Microbiology

Fecal Coliform ()

Total Coliform ()

Comments:

Original



BECKTON ENVIRONMENTAL
LABORATORIES, INC.



REPORT OF ANALYSIS

ATTENTION: Mr. Carlos González
COMPANY: AES Puerto Rico - Guayama

DATE: June 6, 2014

CONTRACT: AES - Guayama

SAMPLE IDENTIFICATION: #5 3,000 TON COMP.

SAMPLER: Client
MATRIX: Solid
SAMPLE WT/VOL: 25 (g/mL) g

LAB. SAMPLE ID: BEL-1402403
LAB. FILE ID: 1402403
DATE SAMPLED: 06/03/14
DATE RECEIVED: 06/03/14
DATE EXTRACTED: 06/03/14 (TCLP)
DATE ANALYZED: 06/05/14 (Metals)
06/05/14 (Hg)

ANALYST: BTR (Metals)
HS (Hg)

MAXIMUM CONCENTRATION OF CONTAMINANTS FOR CHARACTERISTIC OF TCLP TOXICITY

EPA HAZARDOUS WASTE NUMBER	CONTAMINANT	BEL-1402403 RESULTS (mg/L)	METHOD DETECTION LIMIT (mg/L)	REGULATORY LEVEL (mg/L)
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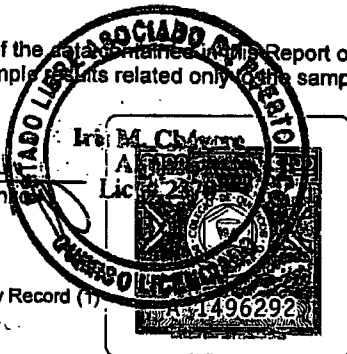
METALS (SW 846 6010C/7470A)

D004	Arsenic	<0.001	0.001	5.0
D005	Barium	0.072	0.001	100.0
D006	Cadmium	<0.001	0.001	1.0
D007	Chromium	0.031	0.001	5.0
D008	Lead	0.006	0.001	5.0
D009	Mercury	<0.00005	0.00005	0.2
D010	Selenium	0.084	0.002	1.0
D011	Silver	<0.001	0.001	5.0

Method Detection Limit (MDL)-The minimum concentration of a substance that can be measured and reported with 99% confidence that the value is above zero.

Certification and release of the data contained in this Report of Analysis has been authorized by the Laboratory Manager or the Manager's Designee. Sample results related only to the sample submitted.

Lcda. Iris M. Chévere Alfonso
Laboratory Director
Chemist License 2370



Attachment: Chain of Custody Record (1)

PAGE 1 OF 1

THE NELAC CERTIFIED ANALYSES MEET ALL REQUIREMENTS OF NELAC STANDARDS.
REFER OUR SERVICE DEPARTMENT FOR THE CURRENT LIST OF CERTIFIED ANALYSES.
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REVISION 2009

CHAIN OF CUSTODY RECORD

PROJECT NO.	COMPANY <i>AES Guayama</i>	SAMPLER <i>Client</i>
SAMPLE LOCATION/CLIENT ID	#5 3,000 Ton Comp.	TIME 1:00 AM
SAMPLE DATE	6-3-14	BEL. NO. 1702403
		CONTROL NO. 176903

1 General Environmental:	PC	VSS	PC
Acidity ()	—	Alkalinity ()	—
Ammonia as N ()	—	Bicarbonate ()	—
BOD-5 ()	—	Bromide ()	—
Chloride ()	—	Chlorine, Res. ()	—
COD ()	—	Color (ADMI) ()	—
Conductivity $\mu\text{mhos/cm}$ ()	—	Color (Pt-Co) ()	—
Dissolved Oxygen ()	—	Cyanide ()	—
Hardness ()	—	Fluoride ()	—
Moisture % ()	—	Iodide ()	—
Nitrite ()	—	Nitrate ()	—
Oil+Grease ()	—	Nitrate + Nitrite ()	—
Phenol ()	—	pH, S.U. ()	—
Phosphorus, Total ()	—	Phosphate, Ortho ()	—
Sett Solids mg/L ()	—	Sett. Solids mL/L ()	—
Sulfate ()	—	Solids, Total ()	—
Sulfite ()	—	Sulfide ()	—
TDS ()	—	Surfactant ()	—
Temperature, °C ()	—	TSS ()	—
TOC ()	—	TKN ()	—
Asbestos ()	—	Turbidity ()	—
TVS ()	—	Carbonate ()	—
Total Nitrogen ()	—		
2. Metals:			
Aluminum (Al) ()	—	Cadmium (Cd) ()	—
Chromium (Cr) ()	—	Copper (Cu) ()	—
Iron (Fe) ()	—	Lead (Pb) ()	—
Manganese (Mn) ()	—	Mercury (Hg) ()	—
Nickel (Ni) ()	—	Selenium (Se) ()	—
Silver (Ag) ()	—	Tin (Sn) ()	—
Zinc (Zn) ()	—	Arsenic (As) ()	—
Barium (Ba) ()	—	Boron (B) ()	—
Antimony (Sb) ()	—	Beryllium (Be) ()	—
Bismuth (Bi) ()	—	Calcium (Ca) ()	—
Chromium, VI (Cr-VI) ()	—	Cobalt (Co) ()	—
Magnesium (Mg) ()	—	Molybdenum (Mo) ()	—
Potassium (K) ()	—	Silicon (Si) ()	—
Sodium (Na) ()	—	Strontium (Sr) ()	—
Thallium (Tl) ()	—	Titanium (Ti) ()	—
Vanadium (V) ()	—	Lithium (Li) ()	—
3. RCRA/Hazardous wastes			
Ignitability (Flash Pt.) ()	—	Corrosivity ()	—
Reactivity (CN & S) ()	—	TCLP ()	—
RCRA Metals <input checked="" type="checkbox"/>	<input type="checkbox"/>	Organics-Pest/Herb ()	—
Organics-BNA ()	—	Organics-VOA ()	—
TOX ()	—		
4. Specific Organics			
Volatiles ()	—	Phenols GC ()	—
Pesticides/PCB's ()	—	Semi-Volatiles (BNA) ()	—
Herbicides ()	—	PCB's Only ()	—
BTEX ()	—	TPH 418.1 ()	—
TTO & Dioxin ()	—	TTO ()	—
		TPH 8015 ()	—
		Lindane ()	—
5. Microbiology			
Fecal Coliform ()	—	Total Coliform ()	—

Comments:

Sampling Witness;

Date/Time:

Relinquished by:

Date/Time:

Received by:

Date/Time:

Relinquished by:

Date/Time:

Received by:

Date/Time:

Relinquished by:

Date/Time:

Received by:

Date/Time:

Matrix

air ()	water ()	sludge ()
liquid ()	soil ()	solid ()
oil ()	mixed ()	other ()

Specify:

Preservative Codes = PC

- | | |
|--|----------------------------|
| 1. Cool, <6°C | 6. Sodium Hydroxide (NaOH) |
| 2. Sulfuric Acid (H_2SO_4), pH<2 | 7. Zinc Acetate |
| 3. Nitric Acid (HNO_3), pH<2 | 8. Ascorbic Acid |
| 4. Hydrochloric acid (HCl) | 9. FAS |
| 5. Sodium Thiosulfate | 10. Other |

Sample type legend:

grab samples	x
composite samples	xx

Turnaround time: Sampling Equipment:

1 day ()	Automatic Sampler ()
2 days ()	Sample Pick Up ()
3 days ()	
5 days ()	

Note: normal turnaround time is ten (10) working days;
additional charges apply for rush orders.

Original



BECKTON ENVIRONMENTAL
LABORATORIES, INC.



REPORT OF ANALYSIS

ATTENTION: Mr. Carlos González
COMPANY: AES Puerto Rico - Guayama

DATE: June 6, 2014

CONTRACT: AES - Guayama

SAMPLE IDENTIFICATION: #6 3,000 TON COMP.

SAMPLER: Client
MATRIX: Solid
SAMPLE WT/VOL: 25 (g/mL) g

LAB. SAMPLE ID: BEL-1402417
LAB. FILE ID: 1402417
DATE SAMPLED: 06/04/14
DATE RECEIVED: 06/04/14
DATE EXTRACTED: 06/04/14 (TCLP)
DATE ANALYZED: 06/05/14 (Metals)
06/05/14 (Hg)

ANALYST: BTR (Metals)
HS (Hg)

MAXIMUM CONCENTRATION OF CONTAMINANTS FOR CHARACTERISTIC OF TCLP TOXICITY

EPA HAZARDOUS WASTE NUMBER	CONTAMINANT	BEL-1402417 RESULTS (mg/L)	METHOD DETECTION LIMIT (mg/L)	REGULATORY LEVEL (mg/L)
-------------------------------	-------------	----------------------------------	-------------------------------------	-------------------------------

METALS (SW 846 6010C/7470A)

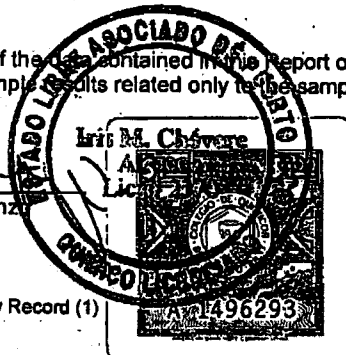
D004	Arsenic	<0.001	0.001	5.0
D005	Barium	0.060	0.001	100.0
D006	Cadmium	<0.001	0.001	1.0
D007	Chromium	0.026	0.001	5.0
D008	Lead	0.006	0.001	5.0
D009	Mercury	<0.00005	0.00005	0.2
D010	Selenium	0.091	0.002	1.0
D011	Silver	<0.001	0.001	5.0

Method Detection Limit (MDL)-The minimum concentration of a substance that can be measured and reported with 99% confidence that the value is above zero.

Certification and release of the data contained in this Report of Analysis has been authorized by the Laboratory Manager or the Manager's Designee. Sample results related only to the sample submitted.

Lcda. Iris M. Chévere Alfonzo
Laboratory Director
Chemist License 2370

Attachment: Chain of Custody Record (1)



PAGE 1 OF 1

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Tel. 787-841-7373 • Fax 787-841-7313

REVISION 2009

CHAIN OF CUSTODY RECORD

PROJECT NO.	COMPANY <i>AES Guayama</i>	SAMPLER <i>Chast</i>
SAMPLE LOCATION/CLIENT ID <i>#6 3,000 for Camp</i>	TIME <i>10:07 AM</i>	CONTROL NO. <i>176904</i>
SAMPLE DATE <i>6-4-14</i>	BEL. NO. <i>1402417</i>	

1. General Environmental:	PC	VSS	PC
Acidity ()	—	Alkalinity ()	—
Ammonia as N ()	—	Bicarbonate ()	—
BOD-5 ()	—	Bromide ()	—
Chloride ()	—	Chlorine, Res. ()	—
COD ()	—	Color (ADMI) ()	—
Conductivity μ mhos/cm ()	—	Color (Pt-Co) ()	—
Dissolved Oxygen ()	—	Cyanide ()	—
Hardness ()	—	Fluoride ()	—
Moisture % ()	—	Iodide ()	—
Nitrite ()	—	Nitrate ()	—
Oil+Grease ()	—	Nitrate + Nitrite ()	—
Phenol ()	—	pH, S.U. ()	—
Phosphorus, Total ()	—	Phosphate, Ortho ()	—
Sett. Solids mg/L ()	—	Sett. Solids mL/L ()	—
Sulfate ()	—	Solids, Total ()	—
Sulfite ()	—	Sulfide ()	—
TDS ()	—	Surfactant ()	—
Temperature, °C ()	—	TSS ()	—
TOC ()	—	TKN ()	—
Asbestos ()	—	Turbidity ()	—
TVS ()	—	Carbonate ()	—
Total Nitrogen ()	—		
2. Metals:			
Aluminum (Al) ()	—	Cadmium (Cd) ()	—
Chromium (Cr) ()	—	Copper (Cu) ()	—
Iron (Fe) ()	—	Lead (Pb) ()	—
Manganese (Mn) ()	—	Mercury (Hg) ()	—
Nickel (Ni) ()	—	Selenium (Se) ()	—
Silver (Ag) ()	—	Tin (Sn) ()	—
Zinc (Zn) ()	—	Arsenic (As) ()	—
Barium (Ba) ()	—	Boron (B) ()	—
Antimony (Sb) ()	—	Beryllium (Be) ()	—
Bismuth (Bi) ()	—	Calcium (Ca) ()	—
Chromium, VI (CrVI) ()	—	Cobalt (Co) ()	—
Magnesium (Mg) ()	—	Molybdenum (Mo) ()	—
Potassium (K) ()	—	Silicon (Si) ()	—
Sodium (Na) ()	—	Strontium (Sr) ()	—
Thallium (Tl) ()	—	Titanium (Ti) ()	—
Vanadium (V) ()	—	Lithium (Li) ()	—
3. RCRA/Hazardous wastes			
Ignitability (Flash Pt.) ()	—	Corrosivity ()	—
Reactivity (CN & S) ()	—	TCLP ()	—
RCRA Metals ()	—	Organics-Pest/Herb ()	—
Organics-BNA ()	—	Organics-VOA ()	—
TOX ()	—		
4. Specific Organics			
Volatiles ()	—	Phenols GC ()	—
Pesticides/PCB's ()	—	Semi-Volatiles (BNA) ()	—
Herbicides ()	—	PCB's Only ()	—
BTEX ()	—	TPH 418.1 ()	—
TTO & Dioxin ()	—	TTO ()	—
		TPH 8015 ()	—
		Lindane ()	—
5. Microbiology			
Fecal Coliform ()	—	Total Coliform ()	—

Comments:

Sampling Witness:

Date/Time:

Relinquished by:

Date/Time:

Received by:

Date/Time:

Relinquished by:

Date/Time:

Received by:

Date/Time:

Relinquished by:

Date/Time:

Received by:

Date/Time:

Matrix

air ()	water ()	sludge ()
liquid ()	soil ()	solid ()
oil ()	mixed ()	other ()

Specify:

Preservative Codes = PC

- | | |
|---|----------------------------|
| 1. Cool, <6°C | 6. Sodium Hydroxide (NaOH) |
| 2. Sulfuric Acid (H ₂ SO ₄) pH<2 | 7. Zinc Acetate |
| 3. Nitric Acid (HNO ₃), pH<2 | 8. Ascorbic Acid |
| 4. Hydrochloric acid (HCl) | 9. FAS |
| 5. Sodium Thiosulfate | 10. Other |

Sample type legend:

grab samples	x
composite samples	xx

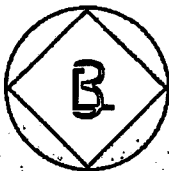
Turnaround time: Sampling Equipment:

- | | |
|------------|-----------------------|
| 1 day () | Automatic Sampler () |
| 2 days (X) | Sample Pick Up () |
| 3 days () | |
| 5 days () | |

Note: normal turnaround time is ten (10) working days;
additional charges apply for rush orders.

Original

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BECKTON ENVIRONMENTAL
LABORATORIES, INC.



REPORT OF ANALYSIS

ATTENTION: Mr. Carlos González
COMPANY: AES Puerto Rico - Guayama

DATE: June 6, 2014

CONTRACT: AES - Guayama

SAMPLE IDENTIFICATION: #7 3,000 TON COMP.

SAMPLER: Client
MATRIX: Solid
SAMPLE WT/VOL: 25 (g/mL) g

LAB. SAMPLE ID: BEL-1402418
LAB. FILE ID: 1402418
DATE SAMPLED: 06/04/14
DATE RECEIVED: 06/04/14
DATE EXTRACTED: 06/04/14 (TCLP)
DATE ANALYZED: 06/05/14 (Metals)
06/05/14 (Hg)

ANALYST: BTR (Metals)
HS (Hg)

MAXIMUM CONCENTRATION OF CONTAMINANTS FOR CHARACTERISTIC OF TCLP TOXICITY

EPA HAZARDOUS WASTE NUMBER	CONTAMINANT	BEL-1402418 RESULTS (mg/L)	METHOD DETECTION LIMIT (mg/L)	REGULATORY LEVEL (mg/L)
-------------------------------	-------------	----------------------------------	-------------------------------------	-------------------------------

METALS (SW 846 6010C/7470A)

D004	Arsenic	<0.001	0.001	5.0
D005	Barium	0.034	0.001	100.0
D006	Cadmium	<0.001	0.001	1.0
D007	Chromium	0.011	0.001	5.0
D008	Lead	0.006	0.001	5.0
D009	Mercury	<0.00005	0.00005	0.2
D010	Selenium	0.107	0.002	1.0
D011	Silver	<0.001	0.001	5.0

Method Detection Limit (MDL)-The minimum concentration of a substance that can be measured and reported with 99% confidence that the value is above zero.

Certification and release of the data contained in this Report of Analysis has been authorized by the Laboratory Manager or the Manager's Designee. Sample results related only to the sample submitted.

Lcda. Iris M. Chévere Alfaro
Laboratory Director
Chemist License 2370

Attachment: Chain of Custody Record

PAGE 1 OF 1

THE NELAC CERTIFIED ANALYSES MEET ALL REQUIREMENTS OF NELAC STANDARDS.
REFER OUR SERVICE DEPARTMENT FOR THE CURRENT LIST OF CERTIFIED ANALYSES.
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BECKTON ENVIRONMENTAL LABORATORIES

192 Villa Street • Ponce, P.R. 00730-4875

Tel. 787-841-7373 • Fax 787-841-7313

REVISION 2009

CHAIN OF CUSTODY RECORD

PROJECT NO.	COMPANY	SAMPLER
	AES Guayama	Chist
SAMPLE LOCATION/CLIENT ID	#7 3,000 ton Camp	TIME 10:37 AM
SAMPLE DATE	6-4-14	BEL. NO. 1702418
		CONTROL NO. 176916

1. General Environmental:	PC	VSS	PC
Acidity ()	—	Alkalinity ()	—
Ammonia as N ()	—	Bicarbonate ()	—
BOD-5 ()	—	Bromide ()	—
Chloride ()	—	Chlorine, Res. ()	—
COD ()	—	Color (ADMI) ()	—
Conductivity μ mos/cm ()	—	Color (Pt-Co) ()	—
Dissolved Oxygen ()	—	Cyanide ()	—
Hardness ()	—	Fluoride ()	—
Moisture % ()	—	Iodide ()	—
Nitrite ()	—	Nitrate ()	—
Oil+Grease ()	—	Nitrate + Nitrite ()	—
Phenol ()	—	pH, S.U. ()	—
Phosphorus, Total ()	—	Phosphate, Ortho ()	—
Sett. Solids mg/L ()	—	Sett. Solids mL/L ()	—
Sulfate ()	—	Solids, Total ()	—
Sulfite ()	—	Sulfide ()	—
TDS ()	—	Surfactant ()	—
Temperature, °C ()	—	TSS ()	—
TOC ()	—	TKN ()	—
Asbestos ()	—	Turbidity ()	—
TVS ()	—	Carbonate ()	—
Total Nitrogen ()	—		—
2. Metals:			
Aluminum (Al) ()	—	Cadmium (Cd) ()	—
Chromium (Cr) ()	—	Copper (Cu) ()	—
Iron (Fe) ()	—	Lead (Pb) ()	—
Manganese (Mn) ()	—	Mercury (Hg) ()	—
Nickel (Ni) ()	—	Selenium (Se) ()	—
Silver (Ag) ()	—	Tin (Sn) ()	—
Zinc (Zn) ()	—	Arsenic (As) ()	—
Barium (Ba) ()	—	Boron (B) ()	—
Antimony (Sb) ()	—	Beryllium (Be) ()	—
Bismuth (Bi) ()	—	Calcium (Ca) ()	—
Chromium, VI (CrVI) ()	—	Cobalt (Co) ()	—
Magnesium (Mg) ()	—	Molybdenum (Mo) ()	—
Potassium (K) ()	—	Silicon (Si) ()	—
Sodium (Na) ()	—	Strontium (Sr) ()	—
Thallium (Tl) ()	—	Titanium (Ti) ()	—
Vanadium (V) ()	—	Lithium (Li) ()	—
3. RCRA/Hazardous wastes			
Ignitability (Flash Pt.) ()	—	Corrosivity ()	—
Reactivity (CN & S) ()	—	TCLP ()	—
RCRA Metals ()	—	Organics-Pest/Herb ()	—
Organics-BNA ()	—	Organics-VOA ()	—
TOX ()	—		—
4. Specific Organics			
Volatiles ()	—	Phenols GC ()	—
Pesticides/PCB's ()	—	Semi-Volatiles (BNA) ()	—
Herbicides ()	—	PCB's Only ()	—
BTEX ()	—	TPH 418.1 ()	—
TTO & Dioxin ()	—	TTO ()	—
	—	TPH 8015 ()	—
	—	Lindane ()	—
5. Microbiology			
Fecal Coliform ()	—	Total Coliform ()	—

Comments:

Sampling Witness;

Date/Time:

Relinquished by:

Date/Time: 6/4/14 11:13 AM

Received by:

Date/Time: 6-4-14 11:16 AM

Relinquished by:

Date/Time: 6-4-14 12:45 PM

Received by:

Date/Time: 6/4/14 12:45 PM

Relinquished by:

Date/Time:

Received by:

Date/Time:

Matrix

air () water () sludge ()
 liquid () soil () solid (X)
 oil () mixed () other ()

Specify:

Preservative Codes = PC

- | | |
|---|----------------------------|
| 1. Cool, <6°C | 6. Sodium Hydroxide (NaOH) |
| 2. Sulfuric Acid (H ₂ SO ₄) pH<2 | 7. Zinc Acetate |
| 3. Nitric Acid (HNO ₃) pH<2 | 8. Ascorbic Acid |
| 4. Hydrochloric acid (HCl) | 9. FAS |
| 5. Sodium Thiosulfate | 10. Other |

Sample type legend:

grab samples x
 composite samples xx

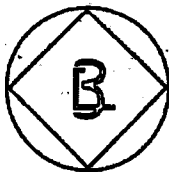
Turnaround time: Sampling Equipment:

1 day () Automatic Sampler ()
 2 days () Sample Pick Up ()
 3 days ()
 5 days ()

Note: normal turnaround time is ten (10) working days;
 additional charges apply for rush orders.

Original

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BECKTON ENVIRONMENTAL
LABORATORIES, INC.



REPORT OF ANALYSIS

ATTENTION: Mr. Carlos González
COMPANY: AES Puerto Rico - Guayama

DATE: June 6, 2014

CONTRACT: AES - Guayama

SAMPLE IDENTIFICATION: #8 3,000 TON COMP.

SAMPLER: Client
MATRIX: Solid
SAMPLE WT/VOL: 25 (g/mL) g

LAB. SAMPLE ID: BEL-1402419
LAB. FILE ID: 1402419
DATE SAMPLED: 06/04/14
DATE RECEIVED: 06/04/14
DATE EXTRACTED: 06/04/14 (TCLP)
DATE ANALYZED: 06/05/14 (Metals)
06/05/14 (Hg)

ANALYST: BTR (Metals)
HS (Hg)

MAXIMUM CONCENTRATION OF CONTAMINANTS FOR CHARACTERISTIC OF TCLP TOXICITY

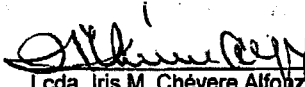
EPA HAZARDOUS WASTE NUMBER	CONTAMINANT	BEL-1402419 RESULTS (mg/L)	METHOD DETECTION LIMIT (mg/L)	REGULATORY LEVEL (mg/L)
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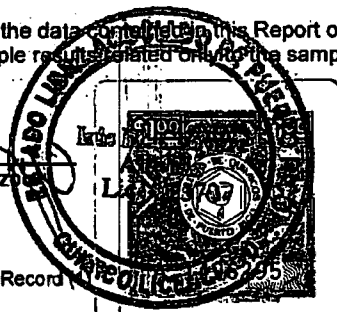
METALS (SW 846 6010C/7470A)

D004	Arsenic	<0.001	0.001	5.0
D005	Barium	0.042	0.001	100.0
D006	Cadmium	<0.001	0.001	1.0
D007	Chromium	0.030	0.001	5.0
D008	Lead	0.006	0.001	5.0
D009	Mercury	<0.00005	0.00005	0.2
D010	Selenium	0.106	0.002	1.0
D011	Silver	<0.001	0.001	5.0

Method Detection Limit (MDL)-The minimum concentration of a substance that can be measured and reported with 99% confidence that the value is above zero.

Certification and release of the data contained in this Report of Analysis has been authorized by the Laboratory Manager or the Manager's Designee. Sample results related only to the sample submitted.


Lcda. Iris M. Chévere Alfaro
Laboratory Director
Chemist License 2370



Attachment: Chain of Custody Record

PAGE 1 OF 1

THE NELAC CERTIFIED ANALYSES MEET ALL REQUIREMENTS OF NELAC STANDARDS.
REFER OUR SERVICE DEPARTMENT FOR THE CURRENT LIST OF CERTIFIED ANALYSES.
CERTIFIED BY THE STATE OF FLORIDA DEPARTMENT OF HEALTH AND REHABILITATION SERVICES FOR ENVIRONMENTAL TESTING
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BECKTON ENVIRONMENTAL LABORATORIES

192 Villa Street • Ponce, P.R. 00730-4875
Tel. 787-841-7373 • Fax 787-841-7313

REVISION 2009

CHAIN OF CUSTODY RECORD

PROJECT NO.	COMPANY	SAMPLER
	AES Guayama	Det
SAMPLE LOCATION/CLIENT ID	#8 3,000 turn Comp.	TIME 10:45 AM
SAMPLE DATE	6-4-14	BEL. NO. 1402419
		CONTROL NO. 176831

1. General Environmental:	PC	VSS	PC
Acidity ()		Alkalinity ()	
Ammonia as N ()		Bicarbonate ()	
BOD-5 ()		Bromide ()	
Chloride ()		Chlorine, Res. ()	
COD ()		Color (ADMI) ()	
Conductivity μ mhos/cm ()		Color (Pt-Co) ()	
Dissolved Oxygen ()		Cyanide ()	
Hardness ()		Fluoride ()	
Moisture % ()		Iodide ()	
Nitrite ()		Nitrate ()	
Oil+Grease ()		Nitrate + Nitrite ()	
Phenol ()		pH, S.U. ()	
Phosphorus, Total ()		Phosphate, Ortho ()	
Sett Solids mg/L ()		Sett. Solids mL/L ()	
Sulfate ()		Solids, Total ()	
Sulfite ()		Sulfide ()	
TDS ()		Surfactant ()	
Temperature, °C ()		TSS ()	
TOC ()		TKN ()	
Asbestos ()		Turbidity ()	
TVS ()		Carbonate ()	
Total Nitrogen ()			
2. Metals:			
Aluminum (Al) ()		Cadmium (Cd) ()	
Chromium (Cr) ()		Copper (Cu) ()	
Iron (Fe) ()		Lead (Pb) ()	
Manganese (Mn) ()		Mercury (Hg) ()	
Nickel (Ni) ()		Selenium (Se) ()	
Silver (Ag) ()		Tin (Sn) ()	
Zinc (Zn) ()		Arsenic (As) ()	
Barium (Ba) ()		Boron (B) ()	
Antimony (Sb) ()		Beryllium (Be) ()	
Bismuth (Bi) ()		Calcium (Ca) ()	
Chromium, VI (CrVI) ()		Cobalt (Co) ()	
Magnesium (Mg) ()		Molybdenum (Mo) ()	
Potassium (K) ()		Silicon (Si) ()	
Sodium (Na) ()		Strontium (Sr) ()	
Thallium (Tl) ()		Titanium (Ti) ()	
Vanadium (V) ()		Lithium (Li) ()	
3. RCRA/Hazardous wastes			
Ignitability (Flash Pt.) ()		Corrosivity ()	
Reactivity (CN & S) ()		TCLP ()	
RCRA Metals ()	I	Organics-Pest/Herb ()	
Organics-BNA ()		Organics-VOA ()	
TOX ()			
4. Specific Organics		Phenols GC ()	
Volatiles ()		Semi-Volatiles (BNA) ()	
Pesticides/PCB's ()		PCB's Only ()	
Herbicides ()		TPH 418.1 ()	
BTEX ()		TTO ()	
TTO & Dioxin ()		TPH 8015 ()	
		Lindane ()	
5. Microbiology			
Fecal Coliform ()		Total Coliform ()	

Comments:

Sampling Witness: _____
Date/Time: _____
Relinquished by: _____
Date/Time: 06/04/14 11:14 A.
Received by: _____
Date/Time: 6-4-14 11:16 AM
Relinquished by: _____
Date/Time: 6-4-14 12:45 PM
Received by: _____
Date/Time: 6/4/14 12:45 PM
Relinquished by: _____

Date/Time: _____
Received by: _____
Date/Time: _____

Matrix

air () water () sludge ()
liquid () soil () solid (X)
oil () mixed () other ()

Specify:

Preservative Codes = PC

- | | |
|---|----------------------------|
| 1. Cool, <6° C | 6. Sodium Hydroxide (NaOH) |
| 2. Sulfuric Acid (H ₂ SO ₄) pH<2 | 7. Zinc Acetate |
| 3. Nitric Acid (HNO ₃), pH<2 | 8. Ascorbic Acid |
| 4. Hydrochloric acid (HCl) | 9. FAS |
| 5. Sodium Thiosulfate | 10. Other |

Sample type legend:

grab samples x
composite samples xx

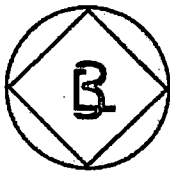
Turnaround time: Sampling Equipment:

1 day () Automatic Sampler ()
2 days () Sample Pick Up ()
3 days ()
5 days ()

Note: normal turnaround time is ten (10) working days;
additional charges apply for rush orders.

Original

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BECKTON ENVIRONMENTAL
LABORATORIES, INC.



REPORT OF ANALYSIS

ATTENTION: Mr. Carlos González
COMPANY: AES Puerto Rico - Guayama

DATE: June 07, 2014

CONTRACT: AES - Guayama

SAMPLE IDENTIFICATION: #9 3,000 TON COMP.

SAMPLER: Client
MATRIX: Solid
SAMPLE WT/VOL: 25 (g/mL) g

LAB. SAMPLE ID: BEL-1402461
LAB. FILE ID: 1402461
DATE SAMPLED: 06/04/14
DATE RECEIVED: 06/05/14
DATE EXTRACTED: 06/06/14 (TCLP)
DATE ANALYZED: 06/07/14 (Metals)
06/07/14 (Hg)

ANALYST: BTR (Metals)
HS (Hg)

MAXIMUM CONCENTRATION OF CONTAMINANTS FOR CHARACTERISTIC OF TCLP TOXICITY

EPA HAZARDOUS WASTE NUMBER	CONTAMINANT	BEL-1402461 RESULTS (mg/L)	METHOD DETECTION LIMIT (mg/L)	REGULATORY LEVEL (mg/L)
-------------------------------	-------------	----------------------------------	-------------------------------------	-------------------------------

METALS (SW 846 6010C/7470A)

D004	Arsenic	<0.001	0.001	5.0
D005	Barium	0.027	0.001	100.0
D006	Cadmium	<0.001	0.001	1.0
D007	Chromium	0.020	0.001	5.0
D008	Lead	0.007	0.001	5.0
D009	Mercury	0.00146	0.00005	0.2
D010	Selenium	0.159	0.002	1.0
D011	Silver	<0.001	0.001	5.0

Method Detection Limit (MDL)-The minimum concentration of a substance that can be measured and reported with 99% confidence that the value is above zero.

Certification and release of the data contained in this Report of Analysis has been authorized by the Laboratory Manager or the Manager's Designee. Sample results related only to the sample submitted.

Lcda. Iris M. Chévere
Laboratory Director
Chemist License 2370

Attachment: Chain of Custody Record (1)

PAGE 1 OF 1

THE NELAC CERTIFIED ANALYSES MEET ALL REQUIREMENTS OF NELAC STANDARDS.
REFER OUR SERVICE DEPARTMENT FOR THE CURRENT LIST OF CERTIFIED ANALYSES.
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CHAIN OF CUSTODY RECORD

PROJECT NO.	COMPANY AES Gunama	SAMPLER B. Stup
SAMPLE LOCATION/CLIENT ID #9 3,000 tan Comp	TIME 6:15 AM	CONTROL NO. 176910
SAMPLE DATE 6/4/14	BEL. NO. 1402461	

1. General Environmental:	PC	VSS	PC
Acidity ()	—	Alkalinity ()	—
Ammonia as N ()	—	Bicarbonate ()	—
BOD-5 ()	—	Bromide ()	—
Chloride ()	—	Chlorine, Res. ()	—
COD ()	—	Color (ADMI) ()	—
Conductivity μ mhos/cm ()	—	Color (Pt-Co) ()	—
Dissolved Oxygen ()	—	Cyanide ()	—
Hardness ()	—	Fluoride ()	—
Moisture % ()	—	Iodide ()	—
Nitrite ()	—	Nitrate ()	—
Oil+Grease ()	—	Nitrate + Nitrite ()	—
Phenol ()	—	pH, S.U. ()	—
Phosphorus, Total ()	—	Phosphate, Ortho ()	—
Sett Solids mg/L ()	—	Sett. Solids mL/L ()	—
Sulfate ()	—	Solids, Total ()	—
Sulfite ()	—	Sulfide ()	—
TDS ()	—	Surfactant ()	—
Temperature, °C ()	—	TSS ()	—
TOC ()	—	TKN ()	—
Asbestos ()	—	Turbidity ()	—
TVS ()	—	Carbonate ()	—
Total Nitrogen ()	—		—
2. Metals:			
Aluminum (Al) ()	—	Cadmium (Cd) ()	—
Chromium (Cr) ()	—	Copper (Cu) ()	—
Iron (Fe) ()	—	Lead (Pb) ()	—
Manganese (Mn) ()	—	Mercury (Hg) ()	—
Nickel (Ni) ()	—	Selenium (Se) ()	—
Silver (Ag) ()	—	Tin (Sn) ()	—
Zinc (Zn) ()	—	Arsenic (As) ()	—
Barium (Ba) ()	—	Boron (B) ()	—
Antimony (Sb) ()	—	Beryllium (Be) ()	—
Bismuth (Bi) ()	—	Calcium (Ca) ()	—
Chromium, VI (CrVI) ()	—	Cobalt (Co) ()	—
Magnesium (Mg) ()	—	Molybdenum (Mo) ()	—
Potassium (K) ()	—	Silicon (Si) ()	—
Sodium (Na) ()	—	Strontium (Sr) ()	—
Thallium (Tl) ()	—	Titanium (Ti) ()	—
Vanadium (V) ()	—	Lithium (Li) ()	—
3. RCRA/Hazardous wastes			
Ignitability (Flash Pt.) ()	—	Corrosivity ()	—
Reactivity (CN & S) ()	—	TCLP ()	—
RCRA Metals (X) ()	—	Organics-Pest/Herb ()	—
Organics-BNA ()	—	Organics-VOA ()	—
TOX ()	—		—
4. Specific Organics			
Volatiles ()	—	Phenols GC ()	—
Pesticides/PCB's ()	—	Semi-Volatiles (BNA) ()	—
Herbicides ()	—	PCB's Only ()	—
BTEX ()	—	TPH 418.1 ()	—
TTO & Dioxin ()	—	TTO ()	—
	—	TPH 8015 ()	—
	—	Lindane ()	—
5. Microbiology			
Fecal Coliform ()	—	Total Coliform ()	—

Comments:

Sampling Witness; _____
Date/Time: _____
Relinquished by: **Carlos González**
Date/Time: **06/05/2014 / 11:45 AM**
Received by: **Clayton Delya**
Date/Time: **6/5/14 11:45 am**
Relinquished by: **Clayton Delya**
Date/Time: **6/5/14 3:10 pm**
Received by: **Nady & Alper Pina**
Date/Time: **6/5/14 3:10 pm**
Relinquished by: _____

Date/Time: _____
Received by: _____
Date/Time: _____

Matrix

air () water () sludge ()
liquid () soil () solid (X)
oil () mixed () other ()

Specify: _____

Preservative Codes = PC

- | | |
|---|----------------------------|
| 1. Cool, <6°C | 6. Sodium Hydroxide (NaOH) |
| 2. Sulfuric Acid (H ₂ SO ₄) pH<2 | 7. Zinc Acetate |
| 3. Nitric Acid (HNO ₃), pH<2 | 8. Ascorbic Acid |
| 4. Hydrochloric acid (HCl) | 9. FAS |
| 5. Sodium Thiosulfate | 10. Other |

Sample type legend:

grab samples x
composite samples xx

Turnaround time: Sampling Equipment:

1 day () Automatic Sampler ()
2 days (X) Sample Pick Up (X)
3 days ()
5 days ()

Note: normal turnaround time is ten (10) working days;
additional charges apply for rush orders.

Original



BECKTON ENVIRONMENTAL
LABORATORIES, INC.



REPORT OF ANALYSIS

ATTENTION: Mr. Carlos González
COMPANY: AES Puerto Rico - Guayama

DATE: June 07, 2014

CONTRACT: AES - Guayama

SAMPLE IDENTIFICATION: #10 3,000 TON COMP.

SAMPLER: Client
MATRIX: Solid
SAMPLE WT/VOL: 25 (g/mL) g

LAB. SAMPLE ID: BEL-1402462
LAB. FILE ID: 1402462
DATE SAMPLED: 06/04/14
DATE RECEIVED: 06/05/14
DATE EXTRACTED: 06/06/14 (TCLP)
DATE ANALYZED: 06/07/14 (Metals)
06/07/14 (Hg)

ANALYST: BTR (Metals)
HS (Hg)

MAXIMUM CONCENTRATION OF CONTAMINANTS FOR CHARACTERISTIC OF TCLP TOXICITY

EPA HAZARDOUS WASTE NUMBER	CONTAMINANT	BEL-1402462 RESULTS (mg/L)	METHOD DETECTION LIMIT (mg/L)	REGULATORY LEVEL (mg/L)
-------------------------------	-------------	----------------------------------	-------------------------------------	-------------------------------

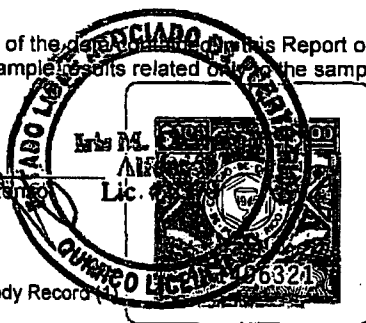
METALS (SW 846 6010C/7470A)

D004	Arsenic	<0.001	0.001	5.0
D005	Barium	0.029	0.001	100.0
D006	Cadmium	<0.001	0.001	1.0
D007	Chromium	0.036	0.001	5.0
D008	Lead	0.007	0.001	5.0
D009	Mercury	0.00007	0.00005	0.2
D010	Selenium	0.247	0.002	1.0
D011	Silver	<0.001	0.001	5.0

Method Detection Limit (MDL)-The minimum concentration of a substance that can be measured and reported with 99% confidence that the value is above zero.

Certification and release of the data contained in this Report of Analysis has been authorized by the Laboratory Manager or the Manager's Designee. Sample results related only to the sample submitted.

Lcda. Iris M. Chévere Alfaro
Laboratory Director
Chemist License 2370



Attachment: Chain of Custody Record

PAGE 1 OF 1

THE NELAC CERTIFIED ANALYSES MEET ALL REQUIREMENTS OF NELAC STANDARDS.
REFER OUR SERVICE DEPARTMENT FOR THE CURRENT LIST OF CERTIFIED ANALYSES.
CERTIFIED BY THE STATE OF FLORIDA DEPARTMENT OF HEALTH AND REHABILITATION SERVICES FOR ENVIRONMENTAL TESTING
• CERTIFICATION NUMBER E87556 •
192 VILLA STREET • PONCE, PR 00730-4875 • TEL. (787) 841-7373 • FAX (787) 841-7313

BECKTON ENVIRONMENTAL LABORATORIES

192 Villa Street • Ponce, P.R. 00730-4875

Tel. 787-841-7373 • Fax 787-841-7313

REVISION 2009

CHAIN OF CUSTODY RECORD

PROJECT NO.	COMPANY AES Guayamas	SAMPLER R. Stap
SAMPLE LOCATION/CLIENT ID	#10 3,000 ton Comp	TIME 10:05 AM
SAMPLE DATE	6/4/14	BEL. NO. 1402462
		CONTROL NO. 176911

1. General Environmental:	PC	VSS	PC
Acidity ()	—	Alkalinity ()	—
Ammonia as N ()	—	Bicarbonate ()	—
BOD-5 ()	—	Bromide ()	—
Chloride ()	—	Chlorine, Res. ()	—
COD ()	—	Color (ADMI) ()	—
Conductivity μ mhos/cm ()	—	Color (Pt-Co) ()	—
Dissolved Oxygen ()	—	Cyanide ()	—
Hardness ()	—	Fluoride ()	—
Moisture % ()	—	Iodide ()	—
Nitrite ()	—	Nitrate ()	—
Oil+Grease ()	—	Nitrate + Nitrite ()	—
Phenol ()	—	pH, S.U. ()	—
Phosphorus, Total ()	—	Phosphate, Ortho ()	—
Sett Solids mg/L ()	—	Sett. Solids mL/L ()	—
Sulfate ()	—	Solids, Total ()	—
Sulfide ()	—	Sulfide ()	—
TDS ()	—	Surfactant ()	—
Temperature, °C ()	—	TSS ()	—
TOC ()	—	TKN ()	—
Asbestos ()	—	Turbidity ()	—
TVS ()	—	Carbonate ()	—
Total Nitrogen ()	—		—
2. Metals:			
Aluminum (Al) ()	—	Cadmium (Cd) ()	—
Chromium (Cr) ()	—	Copper (Cu) ()	—
Iron (Fe) ()	—	Lead (Pb) ()	—
Manganese (Mn) ()	—	Mercury (Hg) ()	—
Nickel (Ni) ()	—	Selenium (Se) ()	—
Silver (Ag) ()	—	Tin (Sn) ()	—
Zinc (Zn) ()	—	Arsenic (As) ()	—
Barium (Ba) ()	—	Boron (B) ()	—
Antimony (Sb) ()	—	Beryllium (Be) ()	—
Bismuth (Bi) ()	—	Calcium (Ca) ()	—
Chromium, VI (CrVI) ()	—	Cobalt (Co) ()	—
Magnesium (Mg) ()	—	Molybdenum (Mo) ()	—
Potassium (K) ()	—	Silicon (Si) ()	—
Sodium (Na) ()	—	Strontium (Sr) ()	—
Thallium (Tl) ()	—	Titanium (Ti) ()	—
Vanadium (V) ()	—	Lithium (Li) ()	—
3. RCRA/Hazardous wastes			
Ignitability (Flash Pt.) ()	—	Corrosivity ()	—
Reactivity (CN & S) ()	—	TCLP ()	—
RCRA Metals (X) ()	—	Organics-Pest/Herb ()	—
Organics-BNA ()	—	Organics-VOA ()	—
TOX ()	—		—
4. Specific Organics			
Volatiles ()	—	Phenols GC ()	—
Pesticides/PCB's ()	—	Semi-Volatiles (BNA) ()	—
Herbicides ()	—	PCB's Only ()	—
BTEX ()	—	TPH 418.1 ()	—
TTO & Dioxin ()	—	TTO ()	—
	—	TPH 8015 ()	—
	—	Lindane ()	—
5. Microbiology			
Fecal Coliform ()	—	Total Coliform ()	—

Comments:

Sampling Witness:

Date/Time:

Relinquished by:

Date/Time:

Received by:

Date/Time:

Relinquished by:

Date/Time:

Received by:

Date/Time:

Relinquished by:

Date/Time:

Received by:

Date/Time:

Matrix

air () water () sludge ()
 liquid () soil () solid (X)
 oil () mixed () other ()

Specify:

Preservative Codes = PC

- | | |
|---|----------------------------|
| 1. Cool, <6°C | 6. Sodium Hydroxide (NaOH) |
| 2. Sulfuric Acid (H ₂ SO ₄) pH<2 | 7. Zinc Acetate |
| 3. Nitric Acid (HNO ₃) pH<2 | 8. Ascorbic Acid |
| 4. Hydrochloric acid (HCl) | 9. FAS |
| 5. Sodium Thiosulfate | 10. Other |

Sample type legend:

grab samples x
 composite samples xx

Turnaround time: Sampling Equipment:

1 day () Automatic Sampler ()
 2 days () Sample Pick Up (X)
 3 days ()
 5 days ()

Note: normal turnaround time is ten (10) working days;
 additional charges apply for rush orders.

Original



BECKTON ENVIRONMENTAL
LABORATORIES, INC.



REPORT OF ANALYSIS

ATTENTION: Mr. Carlos González
COMPANY: AES Puerto Rico - Guayama

DATE: June 07, 2014

CONTRACT: AES - Guayama

SAMPLE IDENTIFICATION: #11 3,000 TON COMP.

SAMPLER: Client
MATRIX: Solid
SAMPLE WT/VOL: 25 (g/mL) g

LAB. SAMPLE ID: BEL-1402463
LAB. FILE ID: 1402463
DATE SAMPLED: 06/05/14
DATE RECEIVED: 06/05/14
DATE EXTRACTED: 06/06/14 (TCLP)
DATE ANALYZED: 06/07/14 (Metals)
06/07/14 (Hg)

ANALYST: BTR (Metals)
HS (Hg)

MAXIMUM CONCENTRATION OF CONTAMINANTS FOR CHARACTERISTIC OF TCLP TOXICITY

EPA HAZARDOUS WASTE NUMBER	CONTAMINANT	BEL-1402463 RESULTS (mg/L)	METHOD DETECTION LIMIT (mg/L)	REGULATORY LEVEL (mg/L)
-------------------------------	-------------	----------------------------------	-------------------------------------	-------------------------------

METALS (SW 846 6010C/7470A)

D004	Arsenic	<0.001	0.001	5.0
D005	Barium	0.037	0.001	100.0
D006	Cadmium	<0.001	0.001	1.0
D007	Chromium	0.045	0.001	5.0
D008	Lead	0.008	0.001	5.0
D009	Mercury	0.00014	0.00005	0.2
D010	Selenium	0.206	0.002	1.0
D011	Silver	<0.001	0.001	5.0

Method Detection Limit (MDL)-The minimum concentration of a substance that can be measured and reported with 99% confidence that the value is above zero.

Certification and release of the data contained in this Report of Analysis has been authorized by the Laboratory Manager or the Manager's Designee. Sample results related only to the sample submitted.

Lcda. Iris M. Chévere Alfaro
Laboratory Director
Chemist License 2370

Attachment: Chain of Custody Record (1)

PAGE 1 OF 1

THE NELAC CERTIFIED ANALYSES MEET ALL REQUIREMENTS OF NELAC STANDARDS.
REFER OUR SERVICE DEPARTMENT FOR THE CURRENT LIST OF CERTIFIED ANALYSES.
CERTIFIED BY THE STATE OF FLORIDA DEPARTMENT OF HEALTH AND REHABILITATION SERVICES FOR ENVIRONMENTAL TESTING
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Tel. 787-841-7373 • Fax 787-841-7313

REVISION 2009

CHAIN OF CUSTODY RECORD

PROJECT NO.	COMPANY AES Guayama	SAMPLER C. Gonzalez
SAMPLE LOCATION/CLIENT ID	#11 3,000 ton Camp	TIME 3:00 PM
SAMPLE DATE	6/5/14	BEL. NO. 1402463
		CONTROL NO. 176912

1. General Environmental:	PC	VSS	PC
Acidity ()	—	Alkalinity ()	—
Ammonia as N ()	—	Bicarbonate ()	—
BOD-5 ()	—	Bromide ()	—
Chloride ()	—	Chlorine, Res. ()	—
COD ()	—	Color (ADMI) ()	—
Conductivity $\mu\text{mhos/cm}$ ()	—	Color (Pt-Co) ()	—
Dissolved Oxygen ()	—	Cyanide ()	—
Hardness ()	—	Fluoride ()	—
Moisture % ()	—	Iodide ()	—
Nitrite ()	—	Nitrate ()	—
Oil+Grease ()	—	Nitrate + Nitrite ()	—
Phenol ()	—	pH, S.U. ()	—
Phosphorus, Total ()	—	Phosphate, Ortho ()	—
Sett Solids mg/L ()	—	Sett. Solids mL/L ()	—
Sulfate ()	—	Solids, Total ()	—
Sulfite ()	—	Sulfide ()	—
TDS ()	—	Surfactant ()	—
Temperature, °C ()	—	TSS ()	—
TOC ()	—	TKN ()	—
Asbestos ()	—	Turbidity ()	—
TVS ()	—	Carbonate ()	—
Total Nitrogen ()	—		
2. Metals:			
Aluminum (Al) ()	—	Cadmium (Cd) ()	—
Chromium (Cr) ()	—	Copper (Cu) ()	—
Iron (Fe) ()	—	Lead (Pb) ()	—
Manganese (Mn) ()	—	Mercury (Hg) ()	—
Nickel (Ni) ()	—	Selenium (Se) ()	—
Silver (Ag) ()	—	Tin (Sn) ()	—
Zinc (Zn) ()	—	Arsenic (As) ()	—
Barium (Ba) ()	—	Boron (B) ()	—
Antimony (Sb) ()	—	Beryllium (Be) ()	—
Bismuth (Bi) ()	—	Calcium (Ca) ()	—
Chromium, VI (CrVI) ()	—	Cobalt (Co) ()	—
Magnesium (Mg) ()	—	Molybdenum (Mo) ()	—
Potassium (K) ()	—	Silicon (Si) ()	—
Sodium (Na) ()	—	Strontium (Sr) ()	—
Thallium (Tl) ()	—	Titanium (Ti) ()	—
Vanadium (V) ()	—	Lithium (Li) ()	—
3. RCRA/Hazardous wastes			
Ignitability (Flash Pt.) ()	—	Corrosivity ()	—
Reactivity (CN & S) ()	—	TCLP ()	—
RCRA Metals ()	—	Organics-Pest/Herb ()	—
Organics-BNA ()	—	Organics-VOA ()	—
TOX ()	—		
4. Specific Organics			
Volatiles ()	—	Phenols GC ()	—
Pesticides/PCB's ()	—	Semi-Volatiles (BNA) ()	—
Herbicides ()	—	PCB's Only ()	—
BTEX ()	—	TPH 418.1 ()	—
TTO & Dioxin ()	—	TTO ()	—
		TPH 8015 ()	—
		Lindane ()	—
5. Microbiology			
Fecal Coliform ()	—	Total Coliform ()	—

Comments:

Sampling Witness:

Date/Time:

Relinquished by:

Date/Time:

Received by:

Date/Time:

Relinquished by:

Date/Time:

Received by:

Date/Time:

Relinquished by:

Date/Time:

Received by:

Date/Time:

Matrix

air () water () sludge ()
 liquid () soil () solid (x)
 oil () mixed () other ()

Specify:

Preservative Codes = PC

- | | |
|---|----------------------------|
| 1. Cool, <6°C | 6. Sodium Hydroxide (NaOH) |
| 2. Sulfuric Acid (H_2SO_4), pH <2 | 7. Zinc Acetate |
| 3. Nitric Acid (HNO_3), pH <2 | 8. Ascorbic Acid |
| 4. Hydrochloric acid (HCl) | 9. FAS |
| 5. Sodium Thiosulfate | 10. Other |

Sample type legend:

grab samples x
 composite samples xx

Turnaround time: Sampling Equipment:

1 day () Automatic Sampler ()
 2 days () Sample Pick Up ()
 3 days ()
 5 days ()

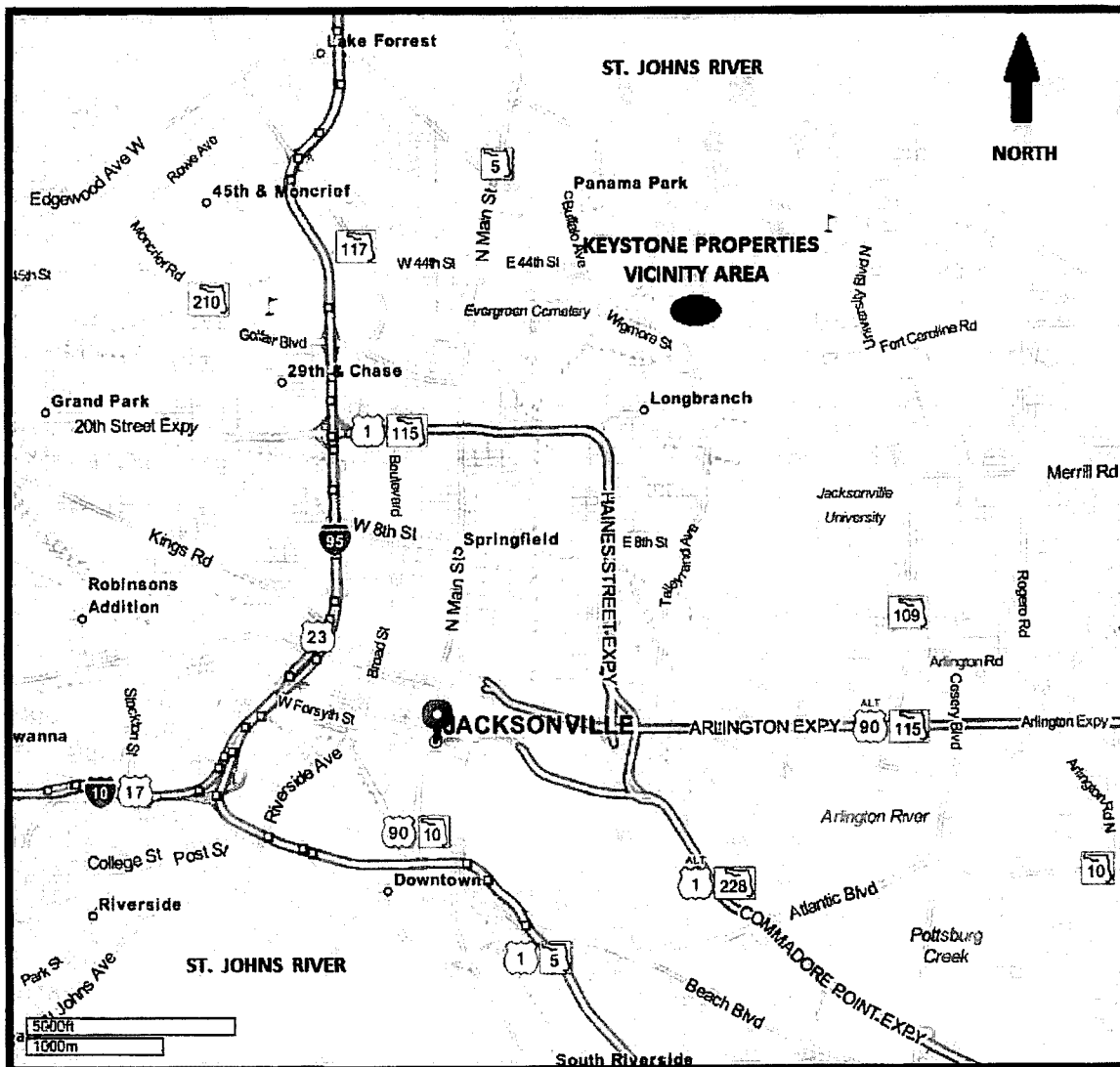
Note: normal turnaround time is ten (10) working days;
 additional charges apply for rush orders.

Original

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Appendix 8.4

Site Vicinity Map



Keystone Storage Pad - B

Site Vicinity Map

(4-15-15)(3.19pm) KS SPad-B (TDBH)

Appendix 8.5

Site Aerial Map



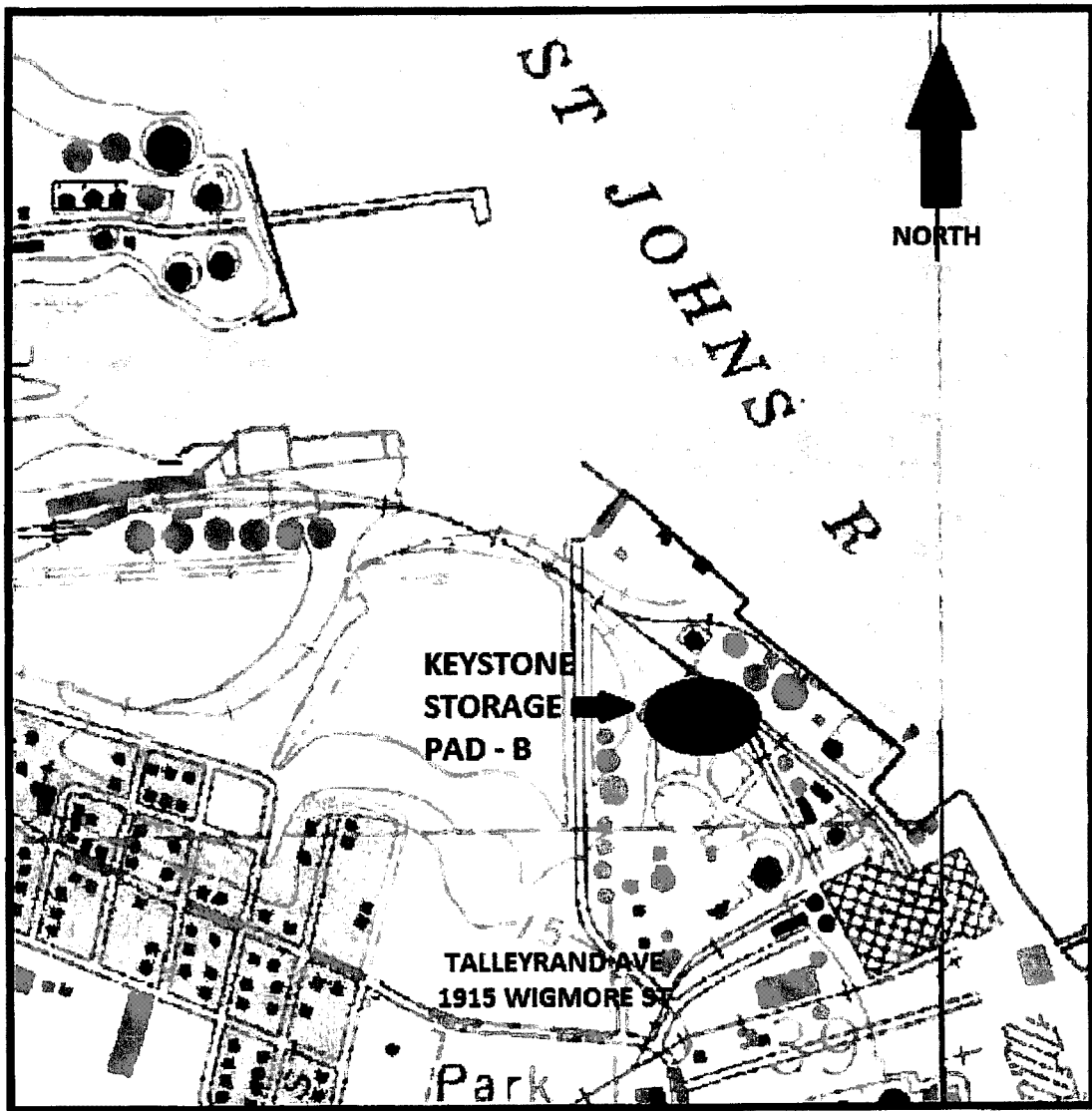
Keystone Storage Pad - B

Site Aerial Map

(4-15-15)(3.19pm) KS SPad-B (TDBH)

Appendix 8.6

Site Quad Map



Keystone Storage Pad - B

Site Quad Map

(4-15-15)(3.19pm) KS SPad-B (TDBH)

Appendix 8.7

Agremax Material Safety Data Sheet (AES)

(4-15-15)(3.19pm) KS SPad-B (TDBH)



Material Safety Data

HMIS

Health	1
Flammability	0
Physical Hazards	0

Product Name: **AGREMAX**

SECTION 1: PRODUCT AND COMPANY INFORMATION

Product Name: **AGREMAX**

Product Identifiers: Synthetic aggregate, ash rock, manufactured aggregate

Manufacturer: **AES Puerto Rico, LP**

Mailing Address: P.O. Box 1890
Guayama, P.R. 00785

Telephone Number for Information: (787)-866-8117

Emergency Number: (787)-866-8117

Date Revised: May 16, 2011

Product Use: Synthetic aggregates are widely used in construction applications as a fill material, road sub-base, soil stabilization, sludge stabilization and as a substitute of natural aggregates. The product is classified under AASHTO M-145 as A-2-4 and USCS = GM. The shape and rock size are variable depending on customer application and handling methods.

SECTION 2: COMPOSITION/INFORMATION ON INGREDIENTS

Ingredient	CAS Number	Weight Percent %	OSHA PEL-8 hours TWA (mg/m ³)	ACGIH TLV-TWA (mg/m ³)	LD ₅₀ (mouse intraperitoneal)	LC ₅₀
Ash (Fly and Bed)	68131-74-8	80% Fly Ash 20% Bed Ash	NA	NA	NA	NA
Water	7732-18-5	15 - 30% for Hydration	—	—	—	—
Silica crystalline SiO ₂ (Quartz), as respirable dust	14808-60-7	<0.005%	(10) / (2+%SiO ₂)	REL= 0.05	NA	NA

(R) = respirable quartz (mineral dust)

(T) = total quartz (mineral dust)

REL= Recommended Exposure Level

SECTION 3 – HAZARD IDENTIFICATION

Possible
Routes

Exposure

Inhalation

☒

Skin or Eyes

☒

Ingestion

☒

Emergency Overview:

Aggregate is a solid, grey/tan, odorless rock which may contain dust residues. It is not combustible or explosive. A single, short-term exposure to the aggregate presents little or no hazard.

Potential Health Effects:

Eye Contact:

Airborne dust may cause immediate or delayed irritation or inflammation. Eye contact with large amounts of aggregate dust or with wet aggregate can cause moderate eye irritation. Eye exposures require immediate first aid to prevent significant damage to the eye.

Skin Contact:

Ash may cause dry skin, discomfort, and irritation.

Inhalation (acute):

Breathing dust may cause nose, throat or lung irritation, including choking, depending on the degree of exposure.

Inhalation (chronic):

Risk of injury depends on duration and level of exposure.

Silicosis:

This product contains less than 0.005%wt crystalline silica. Prolonged or repeated inhalation of respirable crystalline silica can cause silicosis, a seriously disabling and fatal lung disease. See Note to Physicians in Section 4 for further information.

Carcinogenicity:

Aggregate and ash (component) are not listed as a carcinogen by IARC or NTP; however, aggregate contains less than 0.005%wt crystalline silica which is classified by IARC and NTP as known human carcinogen.

**Autoimmune
Disease:**

Some studies show that exposure to respirable crystalline silica (without silicosis) or that the disease silicosis may be associated with the increased incidence of several autoimmune disorders such as scleroderma (thickening of the skin), systemic lupus erythematosus, rheumatoid arthritis and diseases affecting the kidneys.

Tuberculosis:

Silicosis may increase the risk of tuberculosis.

Renal Disease:

Some studies show an increased incidence of chronic kidney disease and end-stage renal disease in workers exposed to respirable crystalline silica.

Ingestion:

Do not ingest aggregate. Although ingestion of small quantities of aggregate is not known to be harmful, large quantities can cause distress to the digestive tract.

**Medical Conditions
Aggravated by
Exposure:**

Individuals with lung disease (e.g. bronchitis, emphysema, COPD, pulmonary disease) can be aggravated by exposure.

SECTION 4: FIRST AID MEASURES

Eye Contact:

If in contact with dust from this product rinse eyes thoroughly with water for at least 15 minutes, including under lids, to remove all particles. Do not rub dust into eyes. Seek medical attention for abrasions.

Skin Contact:

If in contact with dust from this product, brush away dry particles. Wash contaminated skin immediately with cool water and pH neutral soap or a mild skin detergent. Remove any contaminated clothing. If skin becomes irritated, seek medical attention.

Inhalation: If dust from this product is inhaled move person to fresh air. Seek medical attention for discomfort or if coughing or other symptoms do not subside. If breathing is difficult or absent, contact emergency medical services.

Ingestion: Ingestion is unlikely. Rinse out mouth with water. Do not induce vomiting. If conscious, have person drink plenty of water. Seek medical attention immediately.

Note to Physician: The three types of silicosis include:

- Simple chronic silicosis – which results from long-term exposure (more than 20 years) to low amounts of respirable crystalline silica. Nodules of chronic inflammation and scarring provoked by the respirable crystalline silica form in the lungs and chest lymph nodes. This disease may feature breathlessness and may resemble chronic obstructive pulmonary disease (COPD).
- Accelerated silicosis – occurs after exposure to larger amounts of respirable crystalline silica over a shorter period of time (5-15 years). Inflammation, scarring, and symptoms progress faster in accelerated silicosis than in simple silicosis.
- Acute silicosis – results from short-term exposure to very large amounts of respirable crystalline silica. The lungs become very inflamed and may fill with fluid, causing severe shortness of breath and low blood oxygen levels.

Progressive massive fibrosis may occur in simple or accelerated silicosis, but is more common in the accelerated form. Progressive massive fibrosis results from severe scarring and leads to the destruction of normal lung structures.

SECTION 5: FIRE, EXPLOSION HAZARDS AND FIREFIGHTING MEASURES

LEL/UEL: Not Available **Flash Point:** Not available

General Hazard: This material is non-flammable and non-combustible. Use extinguishing media appropriate for surrounding materials. Avoid breathing dust. At high temperatures, calcium oxide (present) may react with water to produce heat and calcium hydroxide. Ventilate to reduce excess heat if water is used as extinguishing medium when the material is dry.

Fire fighting: This product poses no fire-related hazard. An SCBA is recommended to limit exposures to
Equipment: combustion products when fighting any Fire.

Combustion Products: Not Available

Special Fire Fighting Procedures: Not Available

Unusual Fire and Explosion Hazards: Not Available

SECTION 6: ACCIDENTAL RELEASE MEASURES

General: This product is a solid and is not likely to be spilled. If aggregate is released from a truck, contain material, clean with vacuum or wet method to reduce dust generation, and place in secure container. Avoid actions that cause the aggregate to become airborne. Wear appropriate protective equipment as described in Section 8.

Waste Disposal Dispose this product according to Section 13 and according to federal and local regulations. Avoid wash down to sewage and drainage systems or into bodies of water (e.g. streams)

SECTION 7: HANDLING AND STORAGE

General: Take precautions to prevent generation of dust and use wet methods for dust control. Handle with care and use appropriate control measures.

Usage: Cutting, crushing or grinding the aggregate as hardened cement, or other crystalline silica-bearing materials will release respirable crystalline silica (workers). Use all appropriate measures of dust control or suppression, and Personal Protective Equipment (PPE) described in Section 8 below.

Housekeeping: Avoid actions that cause the aggregate to become airborne during clean-up-such as dry sweeping or using compressed air. Use HEPA vacuum or thoroughly wet with water to clean-up dust. Use PPE described in Section 8 below.

Storage Temperature: Unlimited. **Storage Pressure:** Unlimited

Clothing: Promptly remove and launder clothing that is dusty. Thoroughly wash skin after exposure to aggregate.

SECTION 8: EXPOSURE CONTROLS AND PERSONAL PROTECTION

Engineering Controls: Keep dust levels below the PEL (15 mg/m³ for dusts). Use wet methods to control dust. Keep the material wet to minimize dust when handling this material. Compact the material to create a solid surface. Implement Best Management Practices to control erosion and sedimentation impacts to surface water sources. Enclosed operations can require the use of local exhaust ventilation at the site of dust generation.

Personal Protective Equipment (PPE):

Respiratory Protection: Under ordinary conditions no respiratory protection is required. Wear a NIOSH approved respirator that is properly fitted and is in good condition when exposed to dust above exposure limits. Seek professional advice prior to selecting a respirator and follow OSHA regulations (29 CFR 1910.134)

Eye Protection: Wear ANSI approved glasses or safety goggles when handling dust or wet aggregate to prevent contact with eyes. Wearing contact lenses when using aggregate, under dusty conditions, is not recommended.

Skin Protection: Wear gloves, boot covers and protective clothing impervious to water to prevent skin contact. Do not rely on barrier creams, in place of impervious gloves. Remove clothing and protective equipment that becomes saturated with wet aggregate or cement and immediately wash exposed areas.

Work /Hygienic Practices: Do not eat, drink or smoke in work areas. Wash thoroughly after the work shift.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Physical State:	Solid	Evaporation Rate:	NA.
Appearance:	Solid aggregate/rock; gray/tan	pH :	None, solid
Odor:	Odorless	Boiling Point:	None, solid
Vapor Pressure:	NA.	Freezing Point:	None, solid
Vapor Density:	NA.	Viscosity:	None, solid
Specific Gravity:	NA	Solubility in Water:	Not available

SECTION 10: STABILITY AND REACTIVITY

Stability: Stable.

Incompatibility: This product in dry condition may react with water producing heat and calcium hydroxide

Hazardous Polymerization: None.

Hazardous Decomposition: None.

SECTION 11 AND 12 : TOXICOLOGICAL AND ECOLOGICAL INFORMATION

No information available.

SECTION 13 : DISPOSAL CONSIDERATIONS

Evaluate reuse or recycling alternatives. For reuse or recycling information visit the American Coal Ash Association website www.acaa-usa.org. Do not wash aggregate down sewage and drainage systems or into bodies of water (e.g. streams). In case the product can't be reused or recycle dispose of waste and containers in compliance with applicable Puerto Rico, Federal, State, Provincial and Local regulations. This product is not a listed or characteristic hazardous waste under federal regulation (40 CFR 261). Coal combustion products wastes are classified as not hazardous wastes under 40 CFR 261.4(b)(4) when disposed and classified as solid waste under 40 CFR 261.2.

SECTION 14: TRANSPORTATION INFORMATION

This product is not classified as a Hazardous Material under U.S. DOT or Canadian TDG regulations.

SECTION 15: REGULATORY INFORMATION

OSHA/MSHA Hazard
Communication:

This product is required by OSHA/MSHA to be included in the employer's hazard communication program.

CERCLA/SUPERFUND:

This product is not listed as a CERCLA hazardous substance.

EPCRA
SARA Title III:

This product has been reviewed according to the EPA Hazard Categories promulgated under Sections 311 and 312 of the Superfund Amendment and Reauthorization Act of 1986. Hazards: Acute and Chronic Health Hazard.

EPCRA

This product may be subject to SARA 313 reporting requirements.

RCRA (federal):

If discarded in its purchased form, this product is classified as a non-hazardous waste. However, under RCRA, it is the responsibility of the product waste generator to determine at the time of disposal the classification of the material, whether a material containing the product or derived from the product.

TSCA:

Ash and crystalline silica components are exempt from reporting under the inventory update rule.

California
Proposition 65:

Crystalline silica (airborne particulates of respirable size) is known by the State of California to cause cancer.

WHMIS/DSL:

Products containing crystalline silica are classified as D2A, E and are subject to WHMIS requirements.

SECTION 16: OTHER INFORMATION

Abbreviations:

>	Greater than	NA	Not Applicable
ACGIH	American Conference of Governmental Industrial Hygienists	NFPA	National Fire Protection Association
CAS No	Chemical Abstract Service number	NIOSH	National Institute for Occupational Safety and Health
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act	NTP OSHA	National Toxicology Program Occupational Safety and Health Administration
CFR	Code for Federal Regulations	PEL	Permissible Exposure Limit
CL	Ceiling Limit	pH	Negative log of hydrogen ion

DOT	U.S. Department of Transportation	PPE	Personal Protective Equipment
EST	Eastern Standard Time	R	Respirable Particulate
HEPA	High-Efficiency Particulate Air	RCRA	Resource Conservation and Recovery Act
HMIS	Hazardous Materials Identification System	SARA	Superfund Amendments and Reauthorization Act
IARC	International Agency for Research on Cancer	T TDG	Total Particulate Transportation of Dangerous Goods
LC ₅₀	Lethal Concentration	TLV	Threshold Limit Value
LD ₅₀	Lethal Dose	TWA	Time Weighted Average (8 hour)
mg/m ³ MSHA	Milligrams per cubic meter Mine Safety and Health	WHMIS	Workplace Hazardous Materials Information System

AES Puerto Rico, LP (AES-PR) believes the information contained herein is accurate; however, AES-PR makes no guarantees with respect to such accuracy and assumes no liability in connection with the use of the information contained herein which is not intended to be and should not be construed as legal advice or as insuring compliance with any federal, state or local laws or regulations. Any party using this product should review all such laws, rules, or regulations prior to use, including but not limited to Puerto Rico, US and Canada Federal, Provincial and State regulations.

NO WARRANTY IS MADE, EXPRESS OR IMPLIED, OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, OR OTHERWISE.

Appendix 8.8

Agremax Oxide Content (SGS Report)



Analysis Report

April 30, 2013

Page 1 of 1

AES-Puerto Rico
PO Box 1890
Guayama, PR 00785
Puerto Rico

Client Sample ID: Agremax 4/8/2013
Date Received: 04/22/2013
Matrix: Unknown
Net Sample Weight: 430.00 g

Kind of Sample : Agremax

SGS Minerals Sample ID: 072-68035-003

<u>Tests</u>	<u>Result</u> <u>Unit</u>	<u>Method</u>
Available CaO	5.68 %	ASTM C 25
AA Basis	Dry	ASTM D 4326
Silicon Dioxide SiO ₂	21.39 %	ASTM D 4326
Aluminum Oxide Al ₂ O ₃ (Alumina)	26.23 %	ASTM D 4326
Titanium Dioxide TiO ₂	0.80 %	ASTM D 4326
Iron Oxide Fe ₂ O ₃	3.21 %	ASTM D 4326
Calcium Oxide CaO	25.77 %	ASTM D 4326
Magnesium Oxide MgO	0.58 %	ASTM D 4326
Potassium Oxide K ₂ O	0.78 %	ASTM D 4326
Sodium Oxide Na ₂ O	1.25 %	ASTM D 4326
Sulfur Trioxide SO ₃	6.88 %	ASTM D 4326
Phosphorus Pentoxide P ₂ O ₅	0.25 %	ASTM D 4326
Strontium Oxide SrO	0.04 %	ASTM D 4326
Barium Oxide BaO	0.06 %	ASTM D 4326
Manganese Oxide MnO ₂	0.04 %	ASTM D 4326

SGS North America Inc.

Minerals Services Division
4665 Paris St Suite B-200 Denver CO 80239

Somer Rodriguez, Denver Laboratory

1 (303) 373-4772 1 (303) 373-4791 www.sgs.com/minerals

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Analysis Report

April 30, 2013

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AES-Puerto Rico
PO Box 1890
Guayama, PR 00785
Puerto Rico

Client Sample ID: Fly Ash 4/8/2013
Date Received: 04/22/2013
Matrix: Fly Ash

SGS Minerals Sample ID: 072-68035-001

<u>Tests</u>	<u>Result</u> <u>Unit</u>	<u>Method</u>
Ash Analysis Basis	Dry	ASTM D 4326
Silicon Dioxide SiO ₂	25.28 %	ASTM D 4326
Aluminum Oxide Al ₂ O ₃	9.59 %	ASTM D 4326
Titanium Dioxide TiO ₂	0.41 %	ASTM D 4326
Iron Oxide Fe ₂ O ₃	4.79 %	ASTM D 4326
Calcium Oxide CaO	32.62 %	ASTM D 4326
Magnesium Oxide MgO	0.82 %	ASTM D 4326
Potassium Oxide K ₂ O	0.78 %	ASTM D 4326
Sodium Oxide Na ₂ O	1.05 %	ASTM D 4326
Sulfur Trioxide SO ₃	17.45 %	ASTM D 4326
Phosphorus Pentoxide P ₂ O ₅	0.16 %	ASTM D 4326
Strontium Oxide SrO	0.06 %	ASTM D 4326
Barium Oxide BaO	0.12 %	ASTM D 4326
Manganese Oxide MnO ₂	0.05 %	ASTM D 4326
Free Calcium Oxide, CaO	9.51 %	ASTM C 114

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Analysis Report

April 30, 2013

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AES-Puerto Rico
PO Box 1890
Guayama, PR 00785
Puerto Rico

Client Sample ID: Bed Ash 4/8/2013
Date Received: 04/22/2013
Matrix: Ash

Kind of Sample : Bed Ash

SGS Minerals Sample ID: 072-68035-002

Tests

Ash Analysis Basis
Silicon Dioxide SiO₂
Aluminum Oxide Al₂O₃
Titanium Dioxide TiO₂
Iron Oxide Fe₂O₃
Calcium Oxide CaO
Magnesium Oxide MgO
Potassium Oxide K₂O
Sodium Oxide Na₂O
Sulfur Trioxide SO₃
Phosphorus Pentoxide P₂O₅
Strontium Oxide SrO
Barium Oxide BaO
Manganese Oxide MnO₂
Free Calcium Oxide, CaO

Result Unit

Dry
21.34 %
9.89 %
0.48 %
4.82 %
53.62 %
1.10 %
0.36 %
0.53 %
6.40 %
0.22 %
0.07 %
0.09 %
0.07 %
15.61 %

Method

ASTM D 4326
ASTM D 4326
ASTM D 4326
ASTM D 4326
ASTM D 4326
ASTM D 4326
ASTM D 4326
ASTM D 4326
ASTM D 4326
ASTM D 4326
ASTM D 4326
ASTM D 4326
ASTM D 4326
ASTM C 114

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4665 Paris St Suite B-200 Denver CO 80239

Somer Rodriguez, Denver Laboratory

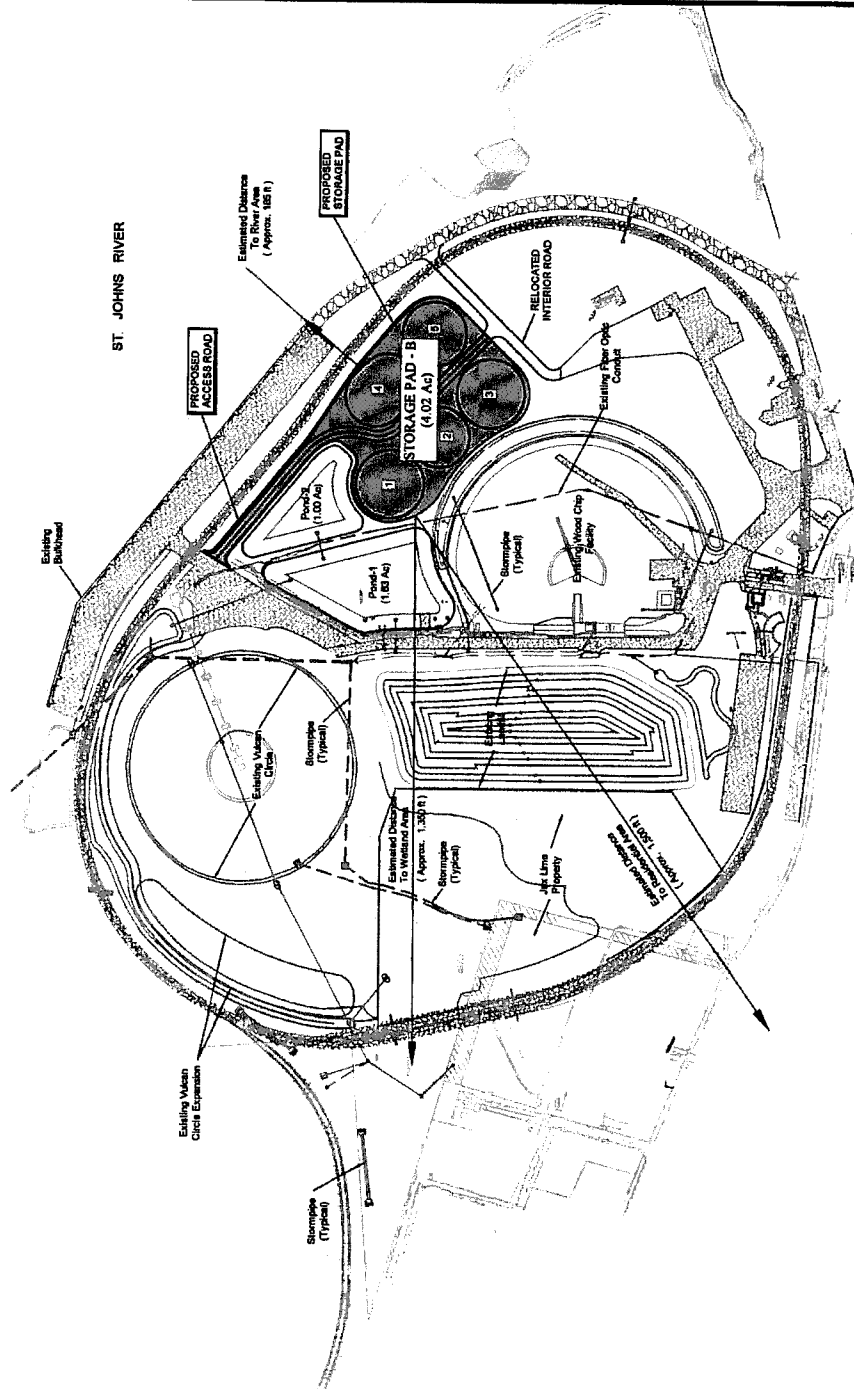
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Appendix 8.9

Overall Site Plan



**PROPOSED STORAGE PAD
AREAS**

PAD NO.	FT ²	AC
1	22,508	0.52
2	17,871	0.41
3	22,508	0.52
4	23,972	0.55
5	20,108	0.46
TOTAL	107,145	2.46

**PROPOSED AGREEMENT
AREAS**

AREA	FT ²	AC
STORAGE PAD	175,281	4.02
ACCESS ROAD	12,473	0.28
TOTAL	187,754	4.31

TALLEYRAND AVENUE
1915 WIGMORE STREET

Designed: SME	1"=300'	April 2	2015-C
Drawn: SME			
Checked: WEH			
Scale:			
Date:			
Project:			

[illegible]

**Southern
Monitoring &
Environmental**

Georgia - Florida

FILE: (4-11-15) KS 6P-B

C-1

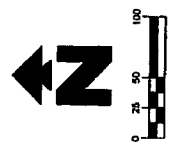
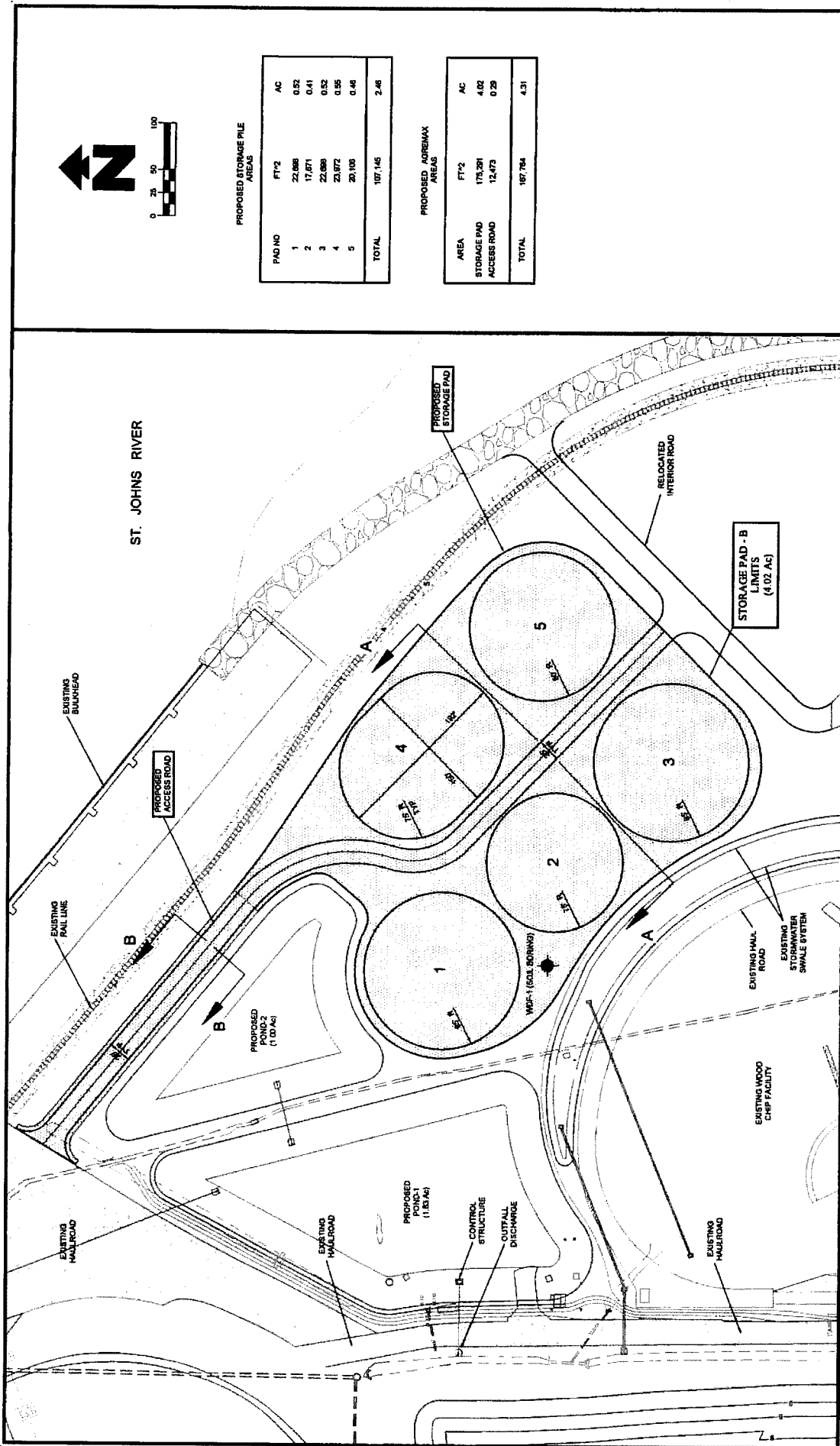
SHEET INDEX

STORAGE PAD - B
KEYSTONE PROPERTIES, LLC

OVERALL SITE PLAN

Appendix 8.10

Site Plan



PROPOSED STORAGE PILE AREAS

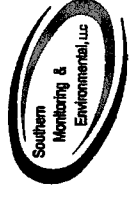
PAD NO	FT ²	AC
1	22,688	0.52
2	17,671	0.41
3	22,688	0.52
4	23,972	0.55
5	20,105	0.46
TOTAL	107,145	2.46

PROPOSED AOREMAX AREAS

AREA	FT ²	AC
STORAGE PAD	173,391	4.02
ACCESS ROAD	13,473	0.29
TOTAL	186,864	4.31

NO.	DATE	DESCRIPTION	BY

Designed: SME
 Drawn: SME
 Checked: WEH
 Scale: 1"=100' 11x17
 Date: April 2015
 Project: 2015-001


Southern Monitoring & Environmental
 Georgia - Florida

STORAGE PAD - B
KEYSTONE PROPERTIES, LLC
SITE PLAN

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Appendix 8.11

Sections

